



# Viz Now LaunchPad

Version 1.2



# Viz Now



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### **Created on**

2024/04/09

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# 1 One Time Setup

The first time you run your application on your Windows system, you need to run through the steps listed under [Prerequisites](#) below.

This is a one-off task. Afterwards, you only need to click on your Viz Now desktop shortcut to get your production ready for your audience.

- [Prerequisites](#)
    - [Windows 10 or Later](#)
    - [Hardware for Client](#)
    - [Firewall Ports](#)
    - [Authentication App](#)
  - [Software Installation and Subscription Activation](#)
    - [Installing the Viz Now LaunchPad](#)
    - [Subscription Activation](#)
  - [Support](#)
  - [Creating a Desktop Shortcut for your Viz Now LaunchPad](#)
  - [Uninstalling the Viz Now LaunchPad](#)
- 

## 1.1 Prerequisites

### 1.1.1 Windows 10 or Later

The Viz Now LaunchPad runs on Windows 10 or later only. Currently Viz Now LaunchPad only supports Windows OS.

- **Windows Updates:** On your PC, in the **Start** menu type *Updates* then click **Check for updates**.

### 1.1.2 Hardware for Client

- Intel i7 2.8 GHz or similar
- 16GB RAM or superior
- Graphics integrated into a processor 1GB RAM or similar
- NIC (Network Interface Card) 1Gbps or superior

### 1.1.3 Firewall Ports

Tricaster Now mandates that the computer operating both Launchpad and NDI Bridge (Join) must have access to specific network ports. It is essential to ensure these ports are open and available for seamless functionality.

Source	Destination	Protocol	Port	Service
<client network> For example: 192.168.0.0/24	<Tricaster Now Instance's Public IP>	TCP	443	Live Panel
		TCP	8443	Remote Access (Nice DCV)
		UDP	8443	
		TCP	5990	NDI Bridge
		UDP	5990	
		TCP	9001-9020	SRT feeds
		UDP	9001-9020	
		TCP	49152 - 65535	Ephemeral Ports for SRT and NDI Bridge
UDP	49152 - 65535			

For detailed information about Network and Connection, access the session [Firewall and Network Best Practices](#).

### 1.1.4 Authentication App

To securely protect your working space, Viz Now employs multi-factor authentication (MFA). This authentication method, also known as two-factor authentication (2FA) requires that you download an app, usually to your mobile device.

Viz Now is compatible with all widely recognized authentication apps available on the Play Store and Apple Store, including industry leaders like *Google* or *Microsoft Authenticator*.

For optimal security, choose an authenticator that is well-known and validated. To find the best option for you, search online for "best authentication app" and follow the installation instructions of your selected provider.

## 1.2 Software Installation And Subscription Activation

### 1.2.1 Installing the Viz Now LaunchPad

The Viz Now LaunchPad is a desktop tool that quickly kicks off your live production application. When you initially download and install the LaunchPad, it checks that two essential utilities

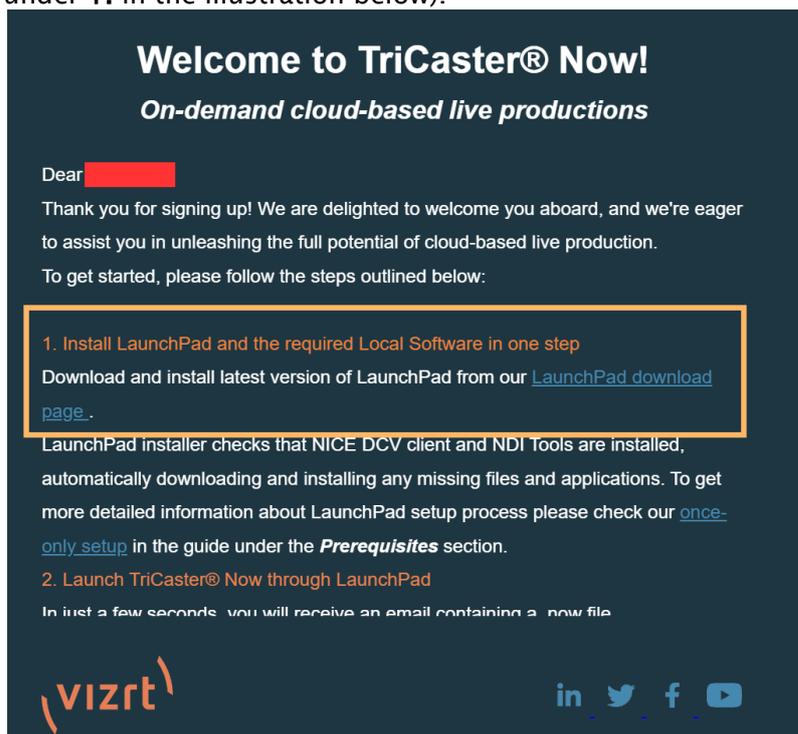
1. **NDI Tools** and
2. **NICE DCV** client

are installed on your local machine.

If these two utilities are not currently installed, they are automatically downloaded and installed. This procedure is clearly presented during the installation.

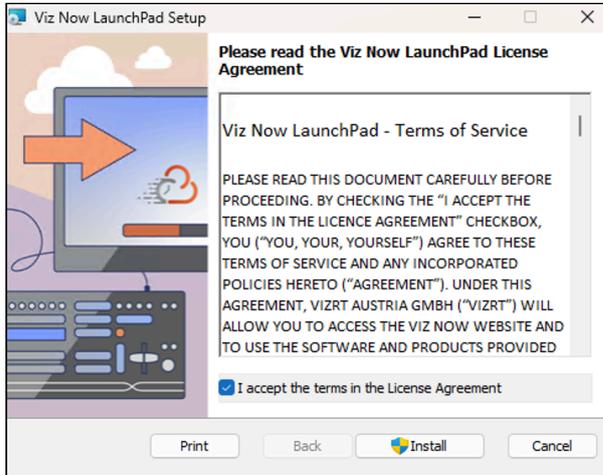
#### To install the Viz Now LaunchPad and utilities

1. In your TriCaster Now welcome email, click the LaunchPad download page link (Located under **1.** in the illustration below).

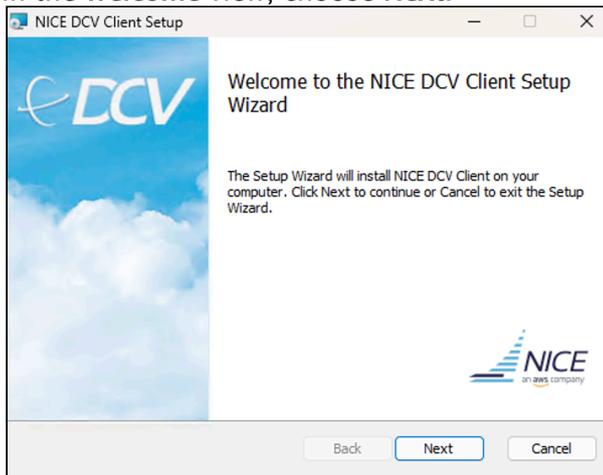


2. Locate the installed file in your **Downloads** folder (or wherever you save your downloads).

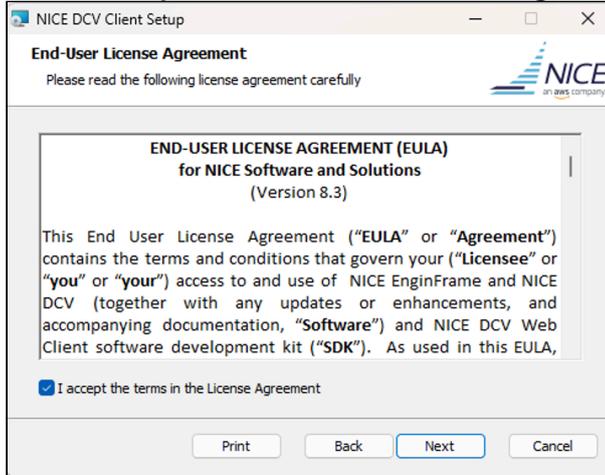
3. Double-click the file *VizNowLaunchPad-<version number>.msi*.



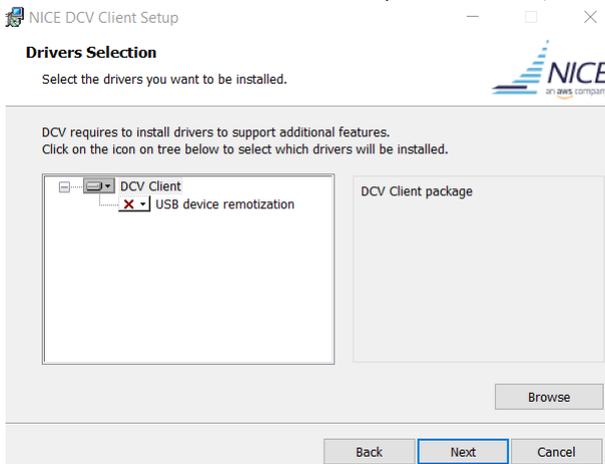
4. Select **Accept terms in the License Agreement** then click **INSTALL**.
5. NICE DCV Client Setup. If this software is not already available on your machine, it will be automatically installed as part of this initial LaunchPad setup. This client software provides optimal remote access features for low-latency, high performance control of your online production.
  - a. In the **Welcome** view, choose **Next**.



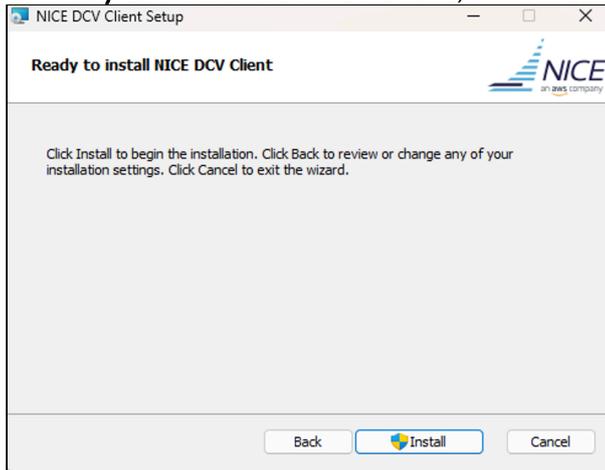
- b. Select **I accept the terms in the License Agreement** and click **Next**.



- c. In the **Drivers Selection** menu, click **Next** (no selections needed).

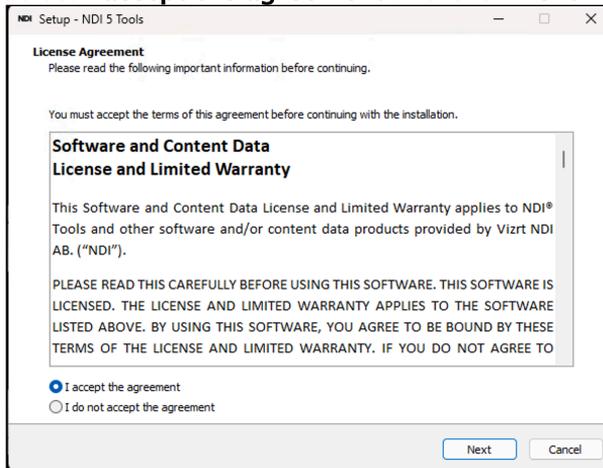


- d. At **Ready to install NICE DCV Client**, click **Install**.

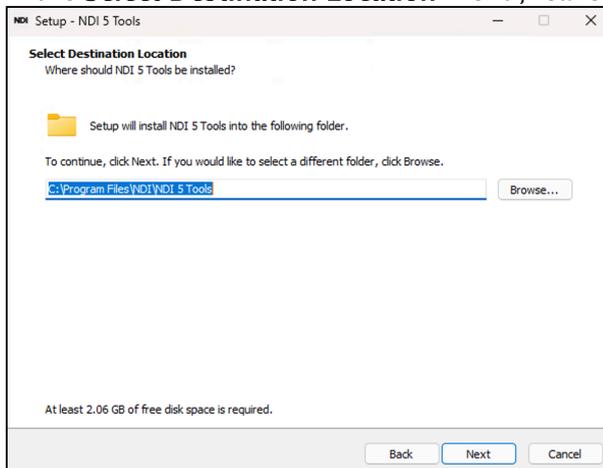


- e. When the installer completes, click **Finish**.
6. NDI Tools is an essential package of helper utilities to enable your online production. If this software is not already available on your machine, it is automatically installed as part of this initial LaunchPad setup.

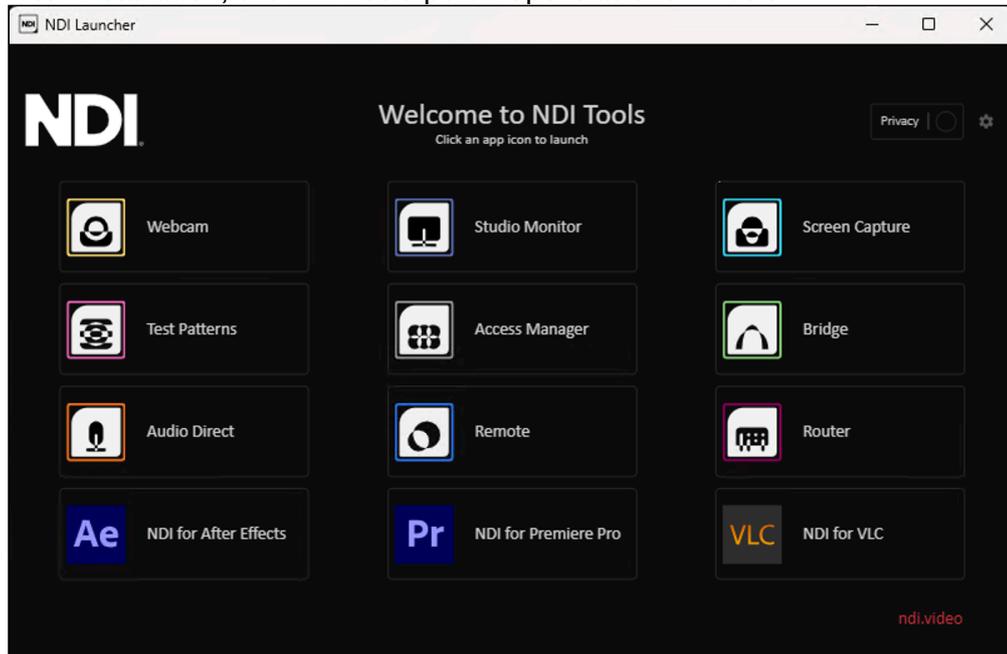
- a. Select **I accept the agreement** and click **Next**.



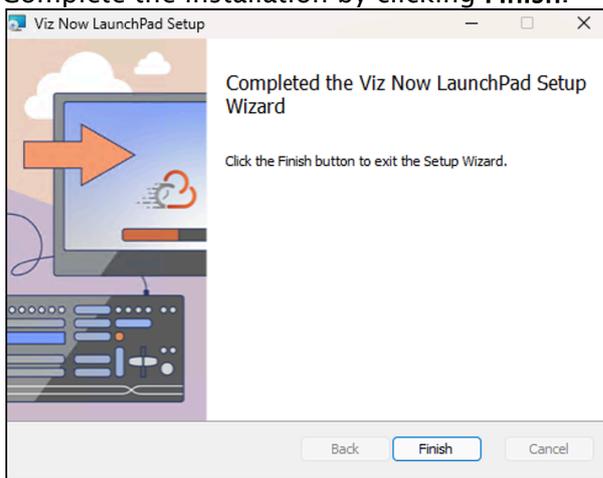
- b. In the **Select Destination Location** menu, leave the default location and click **Next**.



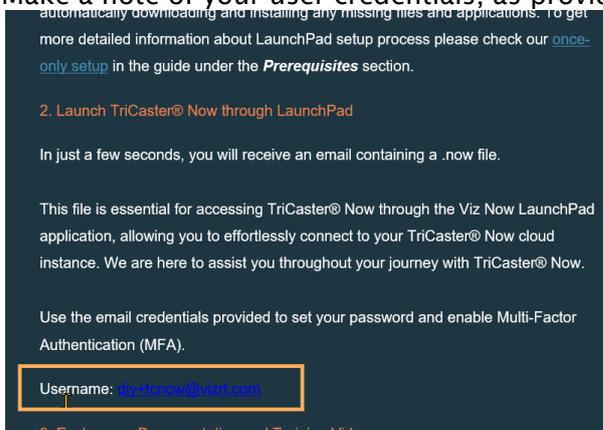
c. After installation, the NDI Tools portal opens as shown below:



7. Complete the installation by clicking **Finish**.



8. Make a note of your user credentials, as provided in the Welcome email.

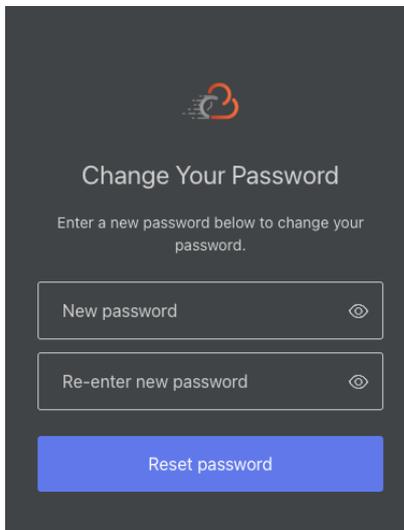


## 1.2.2 Subscription Activation

This is the final stage of the one-off tasks.

1. Check your email for a mail entitled *Activate Your TriCaster® Now Experience: Launchpad File Attached*.
2. Save the attached .now file to your Windows Desktop.
3. Double-click to launch TriCaster now.
4. You are prompted to enter a password.

**⚠ Note:** For security reasons, you must complete this action *within 3 minutes*. After 3 minutes, you will no longer be able to enter a new password. Instead, please go through the sequence '*Forgotten Password*'.



Change Your Password

Enter a new password below to change your password.

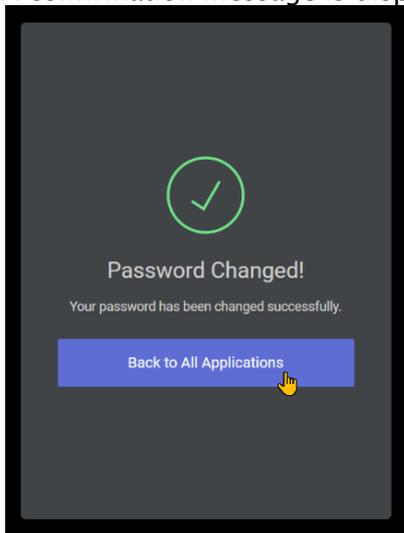
New password

Re-enter new password

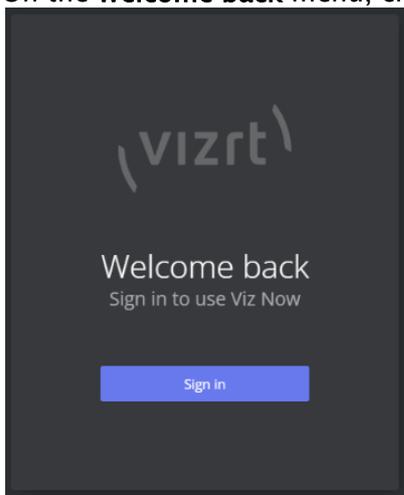
Reset password

**⚠ Note:** Please make a note of your credentials, as they are *not* saved in your browser (even if you are prompted to save them).

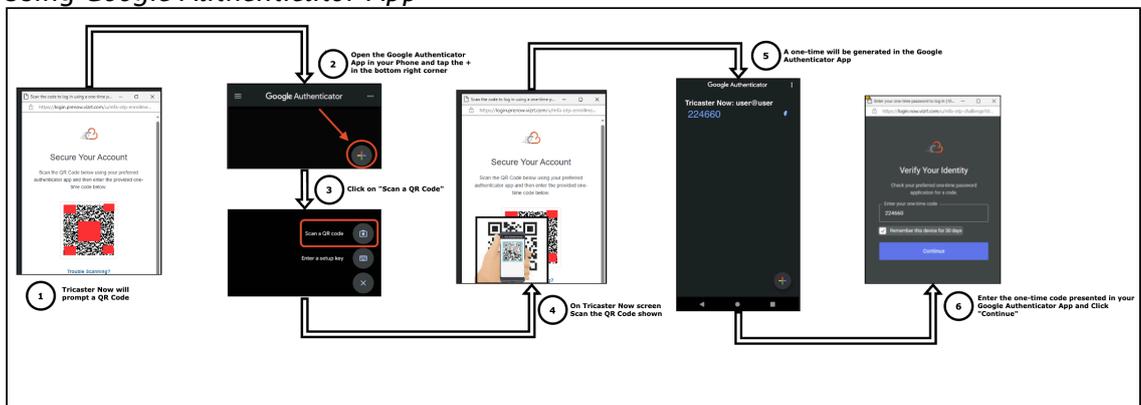
5. Click **Reset password**.  
A confirmation message is displayed.



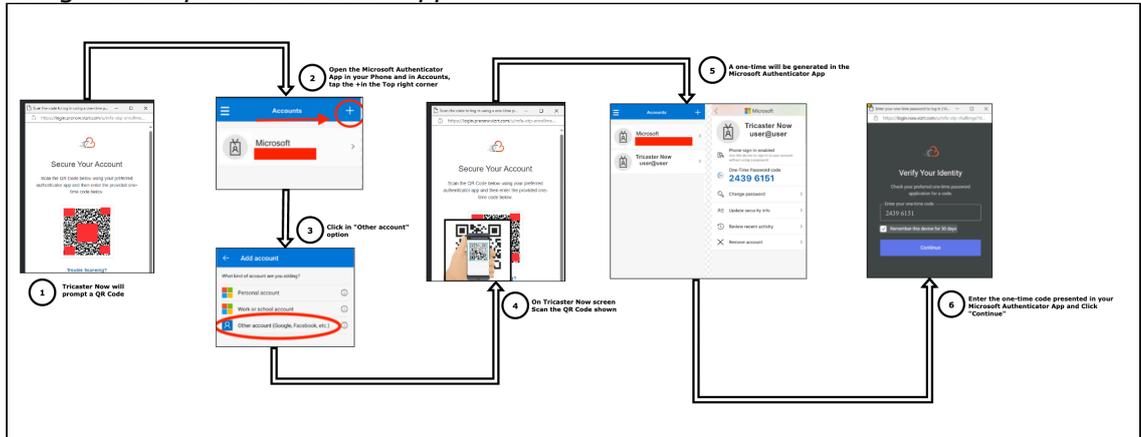
6. Click **Back to all Applications**.
7. On the **Welcome back** menu, click **Sign In**.



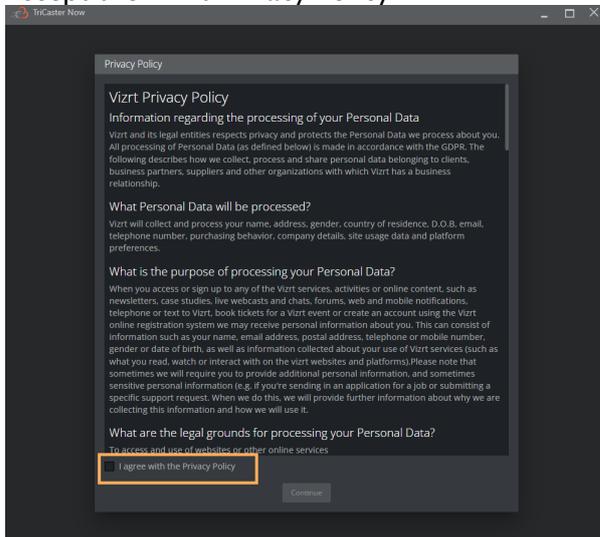
8. Using your preferred **authentication method**, enter your second credentials. Authenticator apps are similar, the examples below use *Google Authenticator* and *Microsoft Authenticator*:
  - a. Using *Google Authenticator App*



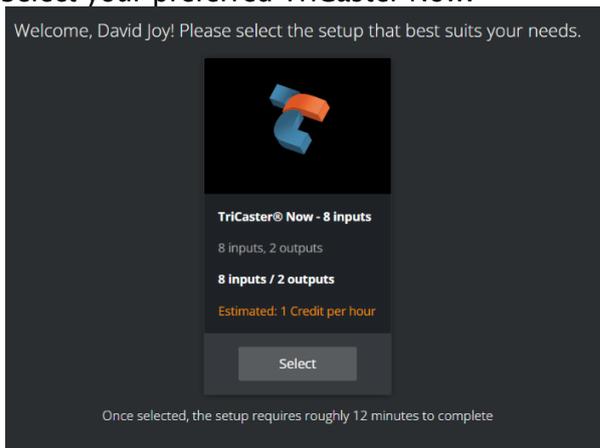
b. Using *Microsoft Authenticator App*



9. Accept the Vizrt Privacy Policy

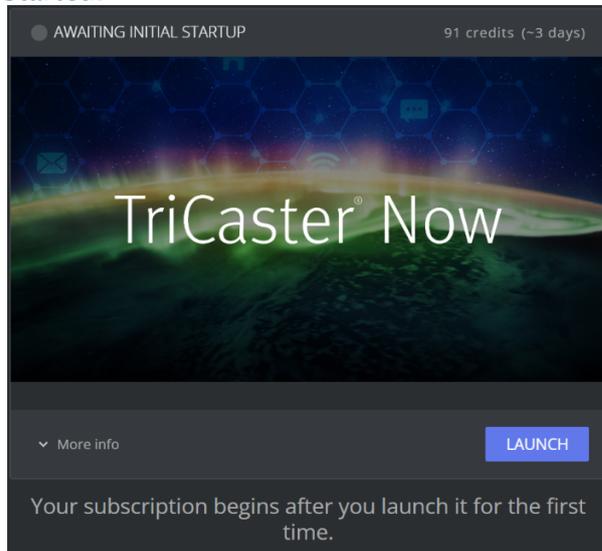


10. Select your preferred TriCaster Now.



Your LaunchPad is now ready for use. Starting your live production is just a few clicks away.

11. When you are ready to start your production, click **LAUNCH**, as described in section [Getting Started](#).



- Note:** By default, after this installation
- Vizrt *.now* files always open the Viz Now LaunchPad.
  - Similarly, *.dcv* files always open the NICE DCV client.

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## 1.3 Support

If you encounter any issues during initial setup, please refer to the [Support](#) section of this guide for assistance.

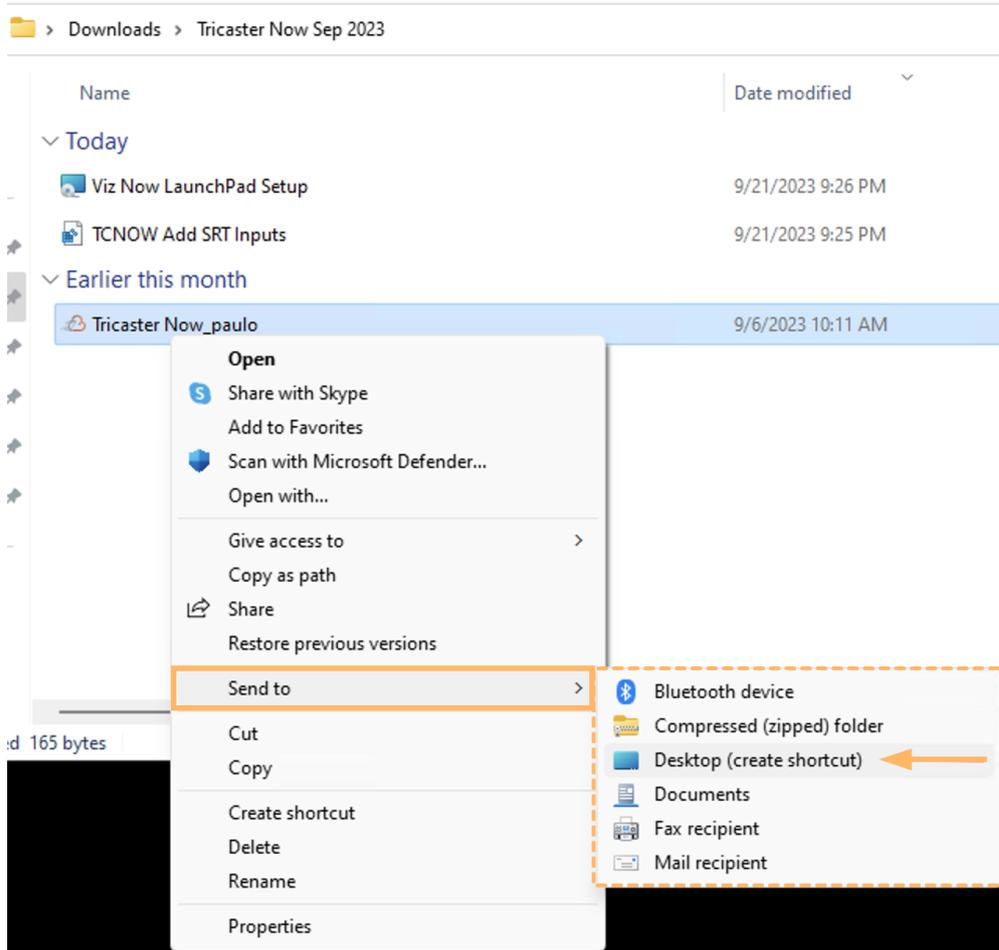
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## 1.4 Creating A Desktop Shortcut For Your Viz Now LaunchPad

You can always follow the link that Vizrt sent you in your welcome email. However, creating a desktop shortcut is an elegant way to enable immediate start of your live production.

1. Download the *.now* file attached in TriCaster Now Welcome Email in your **Downloads** folder (or wherever you save your downloads).

2. Create a shortcut in the Desktop as shown below:



## 1.5 Uninstalling The Viz Now LaunchPad

You uninstall the Viz Now LaunchPad from your Windows PC in the same way as any standard program.

### 1.5.1 To uninstall the Viz Now LaunchPad

1. Click the **Windows** icon on the left of your taskbar, or hit the Windows symbol on your keyboard.
2. Start typing *Add or remove programs* and then select **Add or remove programs**. The Windows **Settings** page opens with **Apps & features**.
3. Scroll down the list of installed applications and click on **Viz Now LaunchPad**. This application name may appear as *Vizrt Application Launcher* or a similar name depending, on installed version.
4. Click **Uninstall**.
5. If a confirmation prompt appears, or you are requested to provide administrator permissions, agree to the on-screen instructions and click **Yes** to proceed. The uninstaller

begins removing the Vizrt Application Launcher and a confirmation message indicates that the Viz Now LaunchPad has been successfully uninstalled.

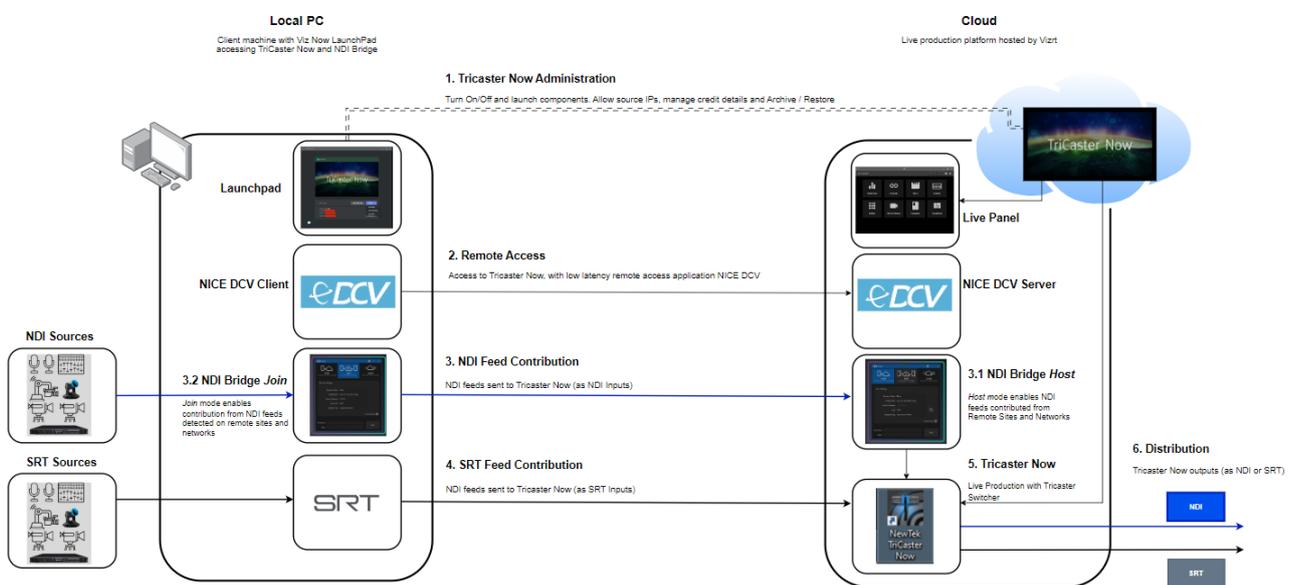
 **Note:** You may also wish to uninstall the associated apps **NICE DCV** and **NDI 5 Tools**.

## 2 Getting Started

Before your first production, you must follow the [Once-only setup](#). After that, your live production is only ever a few clicks away.

- [TriCaster Now Main Components Overview](#)
- [First Time use of TriCaster Now](#)
- [Subsequent TriCaster Now Sessions](#)

### 2.1 TriCaster Now Main Components Overview



### 2.2 First Time Use Of TriCaster Now

Please ensure that you have first performed the one time, mandatory steps in [One Time Setup](#), including setting your password.

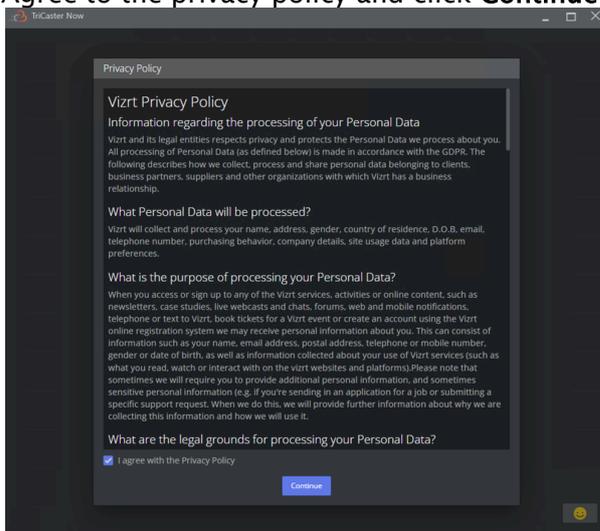
## 2.2.1 Accessing the LaunchPad

### To Launch the Viz Now LaunchPad

1. Start up by double-clicking the `.now` file that came with your welcome email, or your [Desktop shortcut](#).

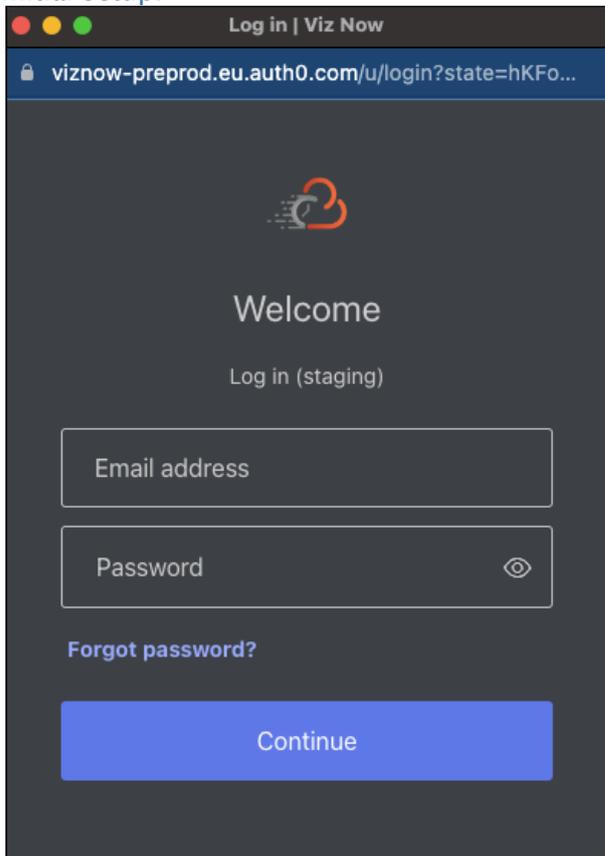


2. Agree to the privacy policy and click **Continue** (This is only shown at first log in).

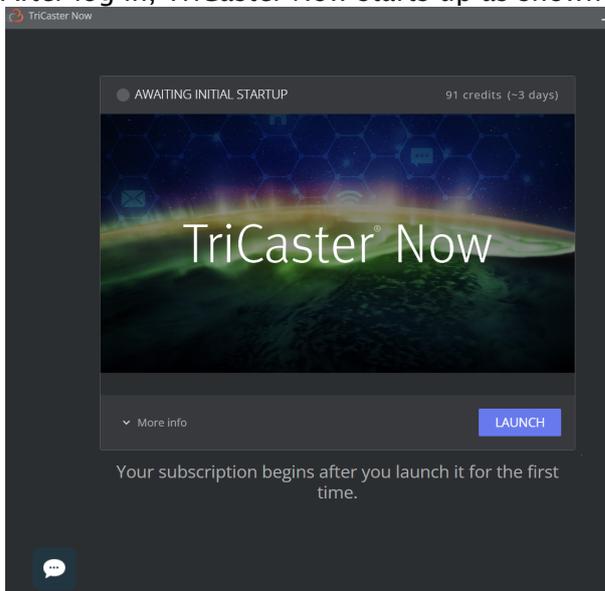


3. Agree to the License Agreement and click **Continue**. Again, this is only be shown the first time you log in.

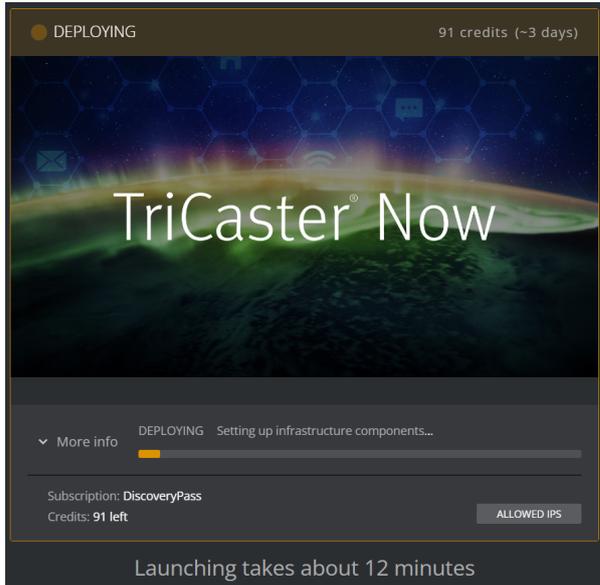
4. Enter your user name you received in your welcome email, and the password you created at [initial setup](#).



5. After log-in, TriCaster Now starts up as shown below.

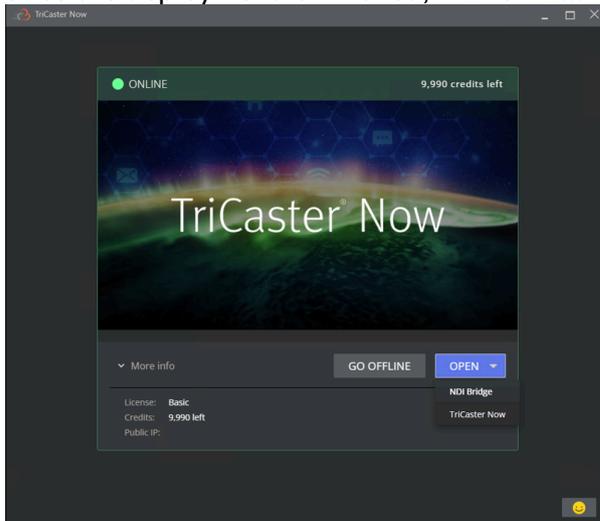


- Click **LAUNCH**.

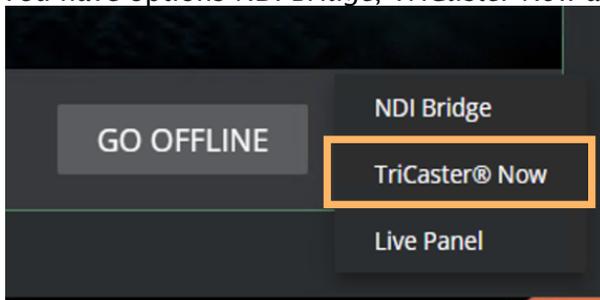


The deployment process begins and will take a few minutes depending on system configuration and workload. A task bar shows the amount of time remaining for the deployment.

- Once the deployment is finished, VizNow LaunchPad changes status to **ONLINE**:



- From the Viz Now LaunchPad, click the down-arrow next to **OPEN**. You have options *NDI Bridge*, *TriCaster Now* and *Live Panel* as options.

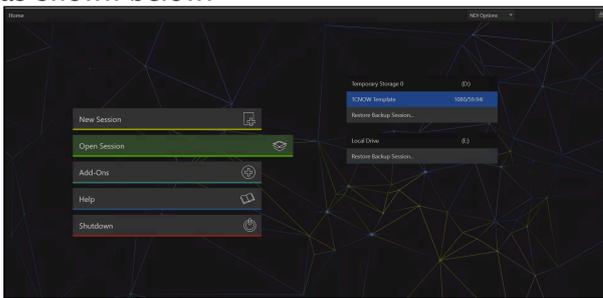


- Select **TriCaster Now**.

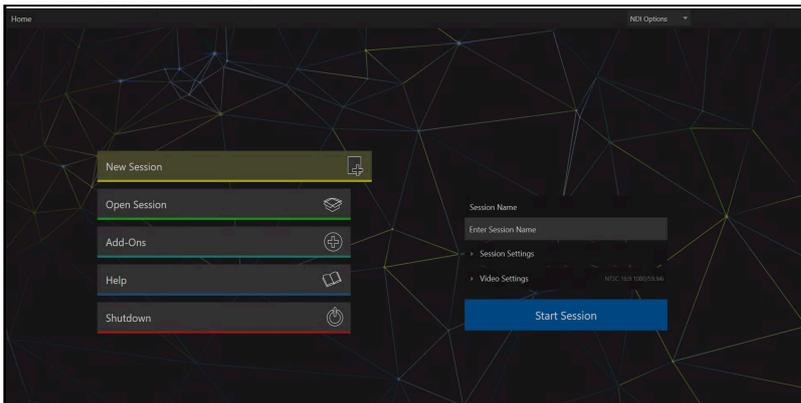
10. The NICE DCV remote desktop application is automatically started.
11. In the NICE DCV menu, click **Trust and Connect**.
12. Wait for connection establishment between the client and the cloud application.



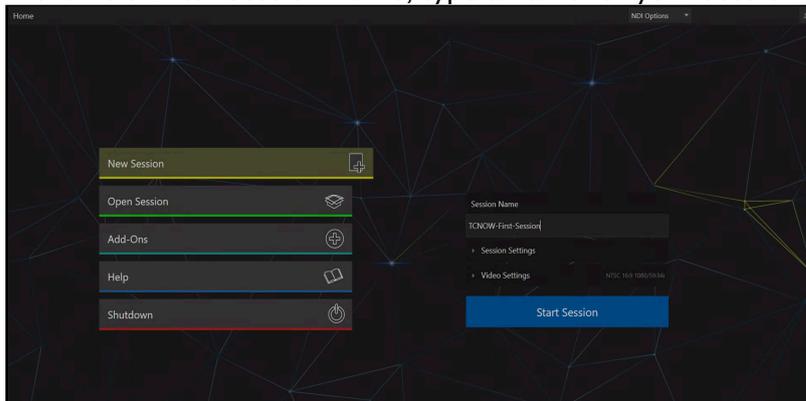
13. You are connected directly in the Cloud Server and TriCaster application opens automatically as shown below:



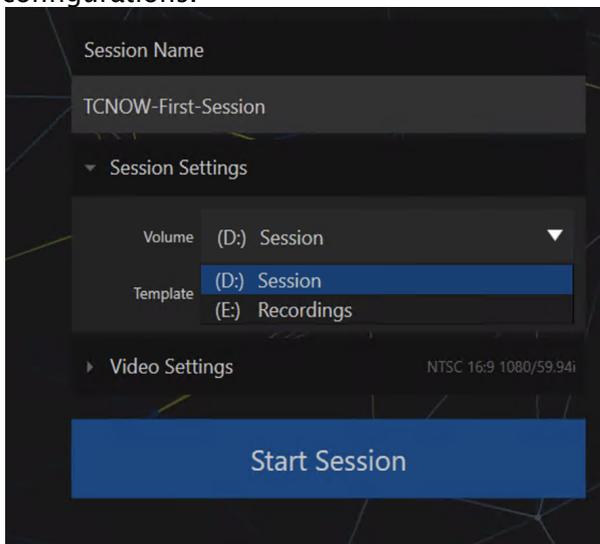
14. **Select New Session.**



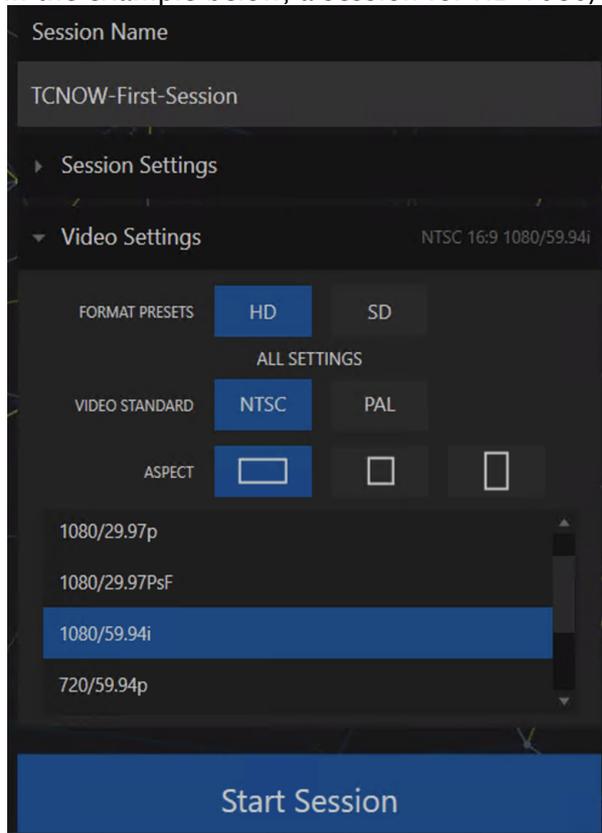
15. In the field *Enter Session Name*, type a name for your session.



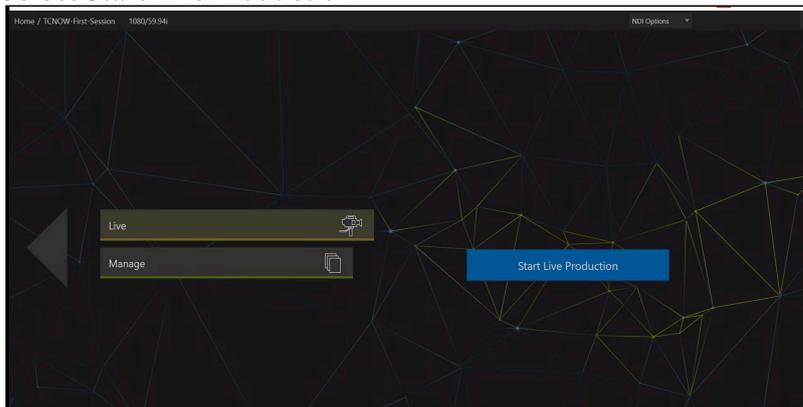
16. Select **Session Settings** and define drive (*D:*) for saving your session files and configurations.



17. Select **Video Settings** and choose **FORMAT PRESETS**, **VIDEO STANDARD** and **ASPECT**. In the example below, a session for HD 1080/59.94i NTSC 16:9.



18. Click **Start Session**.  
19. Select **Start Live Production**.

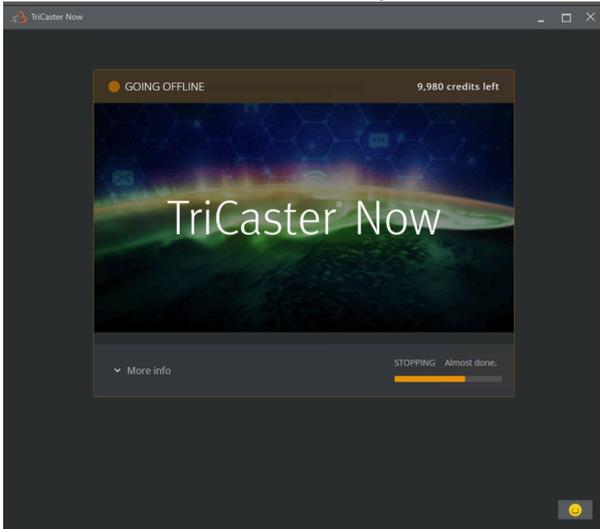


20. Once the live production has started, you can begin configuring your production settings based on your requirements.
- Make sure that display settings are optimized. See section [Display Resolution Adjustments](#).
  - If you will stream NDI over your network, review the settings as described in section [Working with NDI Bridge](#).
21. Exit the TriCaster session with **File > Exit > Exit**.

22. Click the large left-arrow to access the Home view.



23. Shutdown TriCaster with **Shutdown > Shutdown TriCaster Now > Shutdown.**  
 24. From the Viz Now LaunchPad, click **GO OFFLINE** to turn off the system.



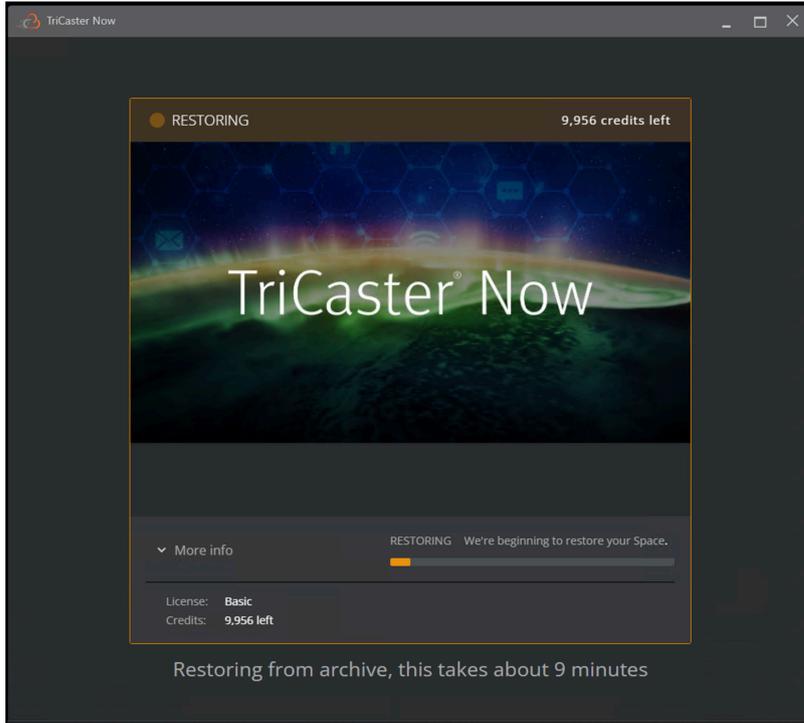
**⚠ Note:** Please refer to the section [After Your Production](#) for details on Shutdown alternatives.

## 2.3 Subsequent TriCaster Now Sessions

At any time during a production, you can archive your session. Archiving takes a snapshot of your Viz Now LaunchPad space, and stores it for future use. This significantly reduces your operating costs, but requires some 15 minutes to both archive, and a similar amount of time to restore the archive.

### 2.3.1 To restore a TriCaster Now session

- Click **RESTORE**.



## 2.4 Sending And Receiving Video Feed With The Cloud

There is some additional fine-tuning after [Getting Started](#), depending on your setup.

- [Working with NDI](#)
  - [NDI Bridge Host inside TriCaster Application](#)
  - [Launching NDI Bridge Join on your Local Machine](#)

### 2.4.1 Working with NDI

To connect an NDI-based stream on your network to your TriCaster Now production, you will also need to start an NDI Bridge session.

- Check first that the NDI Bridge host is running on the Tricaster Now, as described below in [NDI Bridge Host inside TriCaster Application](#).
- After that, follow the instructions in [Launching NDI Bridge Join on the Local Machine](#).

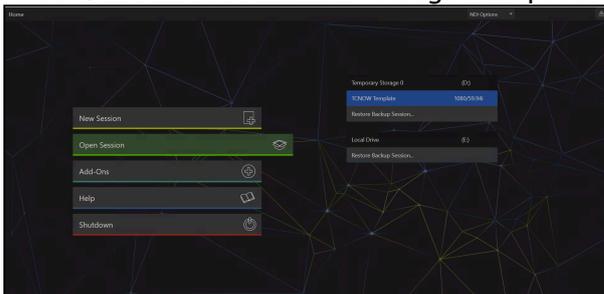
#### NDI Bridge Host inside TriCaster Application

By default TriCaster Now configures and launches automatically *NDI Bridge in host mode* (for receiving NDI feeds from the local machine or other sources). When you open the TriCaster application, it runs in full screen mode. The NDI Bridge UI is not visible, as it runs in the background.

Instead, the NDI Bridge UI is accessible through the TriCaster UI.

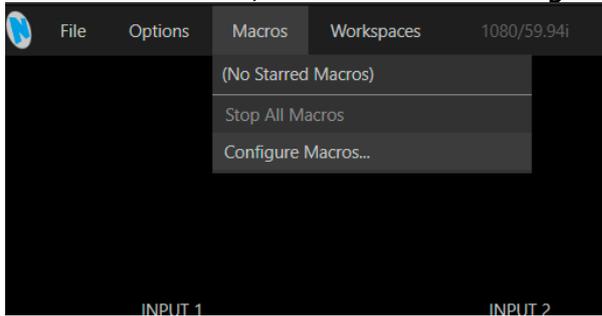
#### To access NDI Bridge running in background

1. In the TriCaster application, select **Open Session**.
2. Select **Start Live Production** to begin the production process.

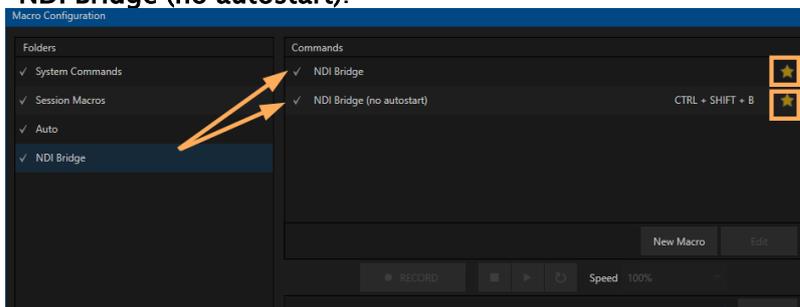


3. At first launch you need to configure shortcuts for accessing the NDI Bridge UI inside the session.

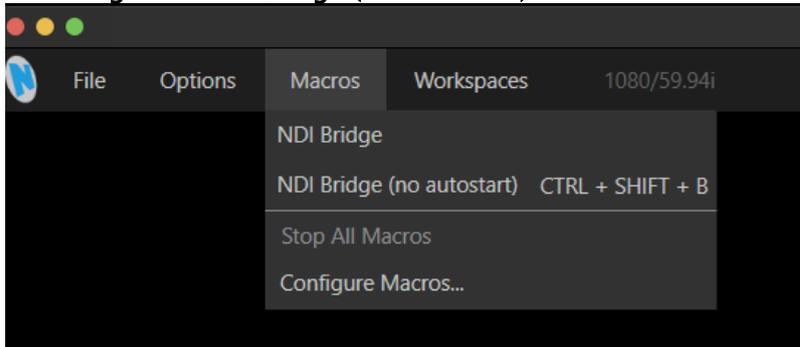
From the menu bar, select **Macros > Configure Macros**.



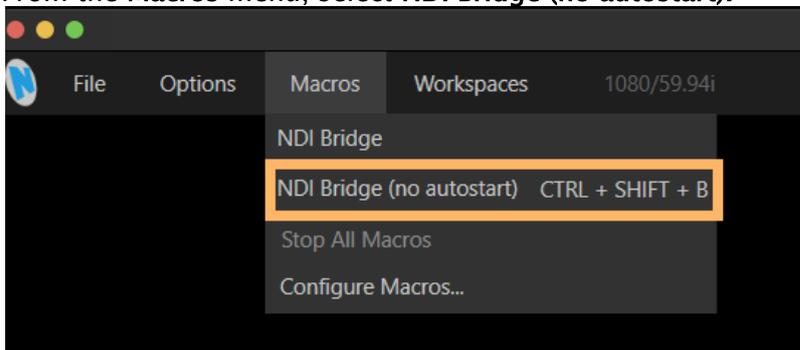
- In the left panel, click the **NDI Bridge** folder and select the star  for both
  - **NDI Bridge** and
  - **NDI Bridge (no autostart)**.



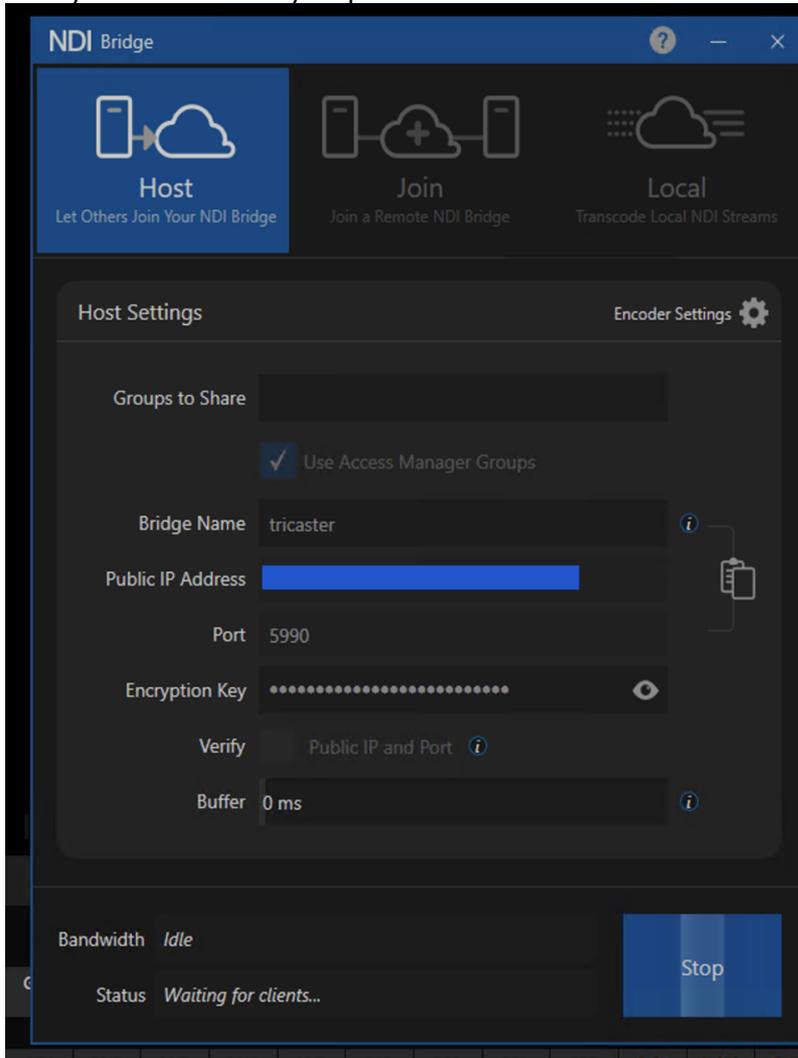
- NDI Bridge** and **NDI Bridge (no autostart)** become available under **Macros**:



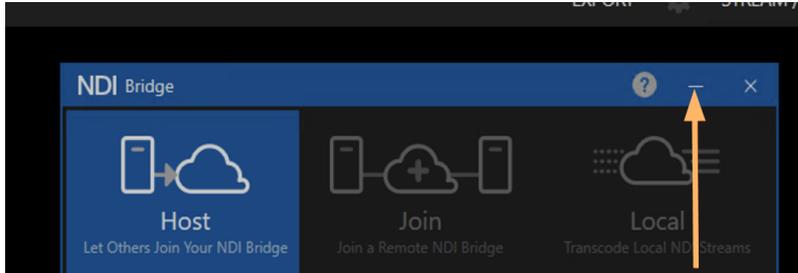
- From the **Macros** menu, select **NDI Bridge (no autostart)**.



- The **NDI Bridge** UI opens showing the application started. Here you can make any required modifications.



- To return to TriCaster Now, minimize the NDI Bridge application by clicking *the minimize button*:



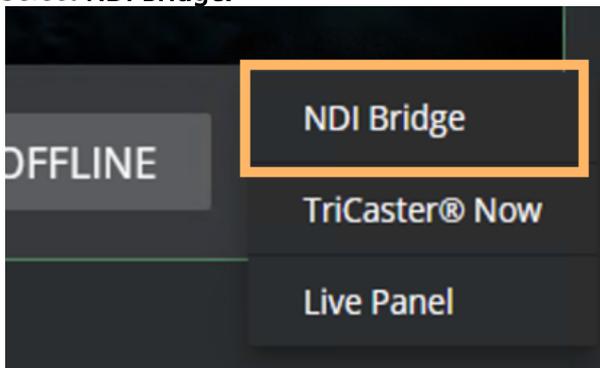
**Important:** Never close the NDI Bridge, this interrupts the application. Always use the *Minimize* option as described above.

## Launching NDI Bridge Join on your Local Machine

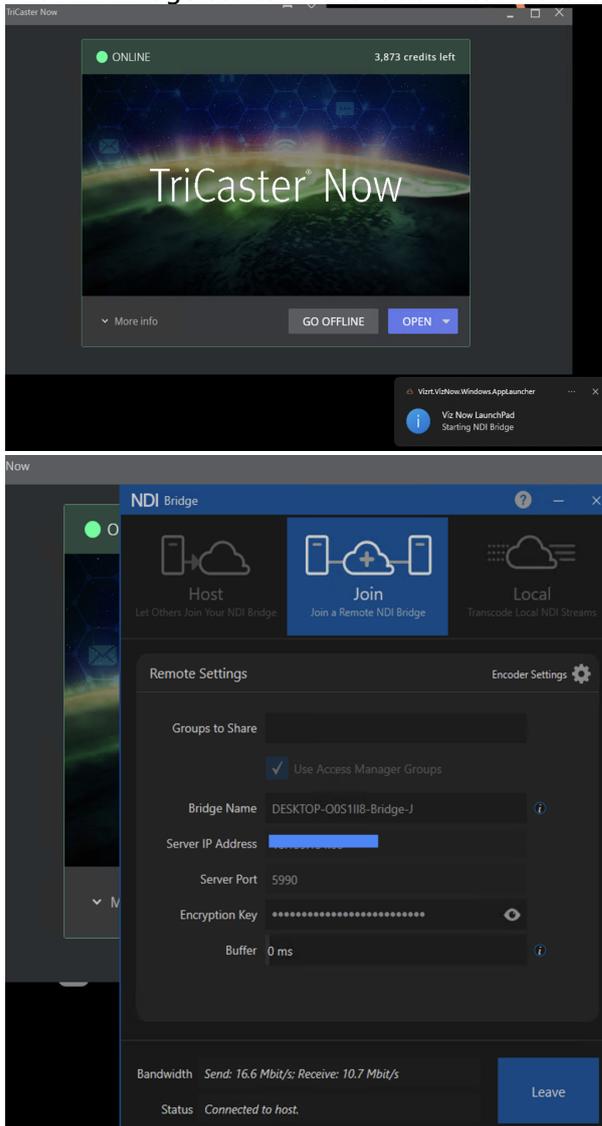
NDI Bridge Join enables you to send NDI feeds from your local machine to the NDI Bridge host running on the TriCaster Now server.

### To launch NDI Bridge Join

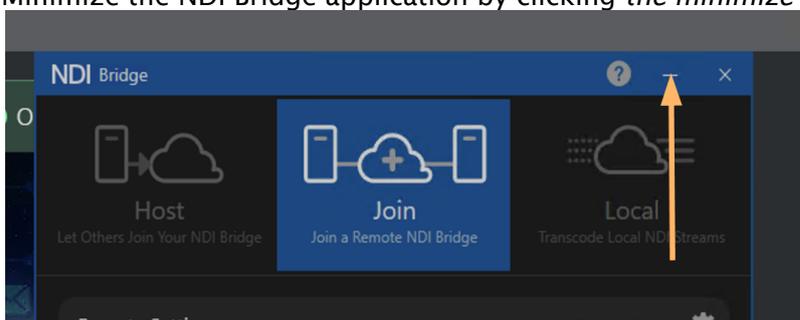
1. First verify that NDI Bridge host is running in the TriCaster Server, as described in section [NDI Bridge Host inside TriCaster Application](#).
2. In the Viz Now LaunchPad, click the down arrow located next to **OPEN**. *NDI Bridge, TriCaster Now* and *Live Panel* are presented as options.
3. Select **NDI Bridge**.



- The NDI Bridge starts in the local machine and opens in **Join Mode**.



- Minimize the NDI Bridge application by clicking *the minimize option* as shown below:



**Important:** Never close the NDI Bridge, this interrupts the application. Always use the minimize option as explained above.

---

## 2.5 Sending And Receiving SRT Video Feeds

### 2.5.1 Introduction

Secure Reliable Transport (SRT) is an open-source transport protocol widely used in various industry applications for video streaming with a technology stack designed for low latency video and media streaming across lossy networks like the public internet.

SRT ensures high-quality video delivery by accounting for packet loss, jitter, and fluctuating bandwidth while maintaining the integrity and quality of the video.

SRT also features end-to-end security with AES encryption, packet loss recovery, stream timing recovery, simplified firewall configuration, and network health monitoring.

#### Prerequisites

- On the client side, firewall ports must be opened for Outgoing (Client → Tricaster Now) as summarized in the table of section *Firewall Ports*, under the [One time Setup](#) topic.
- For detailed information, check the section [Firewall and Network Best Practices](#).

#### SRT Connection Models

SRT establishes a direct, point-to-point communication between systems.

In this setup, only the two involved devices share the communication channel. There are different SRT operational modes: *caller*, *listener*, and *rendezvous*. *Caller* and *listener* are the most relevant. Here's how they work:

- The SRT caller initiates the connection to a listener.
- The SRT listener waits to receive a connection from a caller.

These modes do not define *which* system sends or receives the video feed, they facilitate the establishment of the connection.

Once connected, media flows in the predetermined direction. Think of it like a phone call: either party can initiate the call to share important information, it doesn't matter who calls or receives it.

This section explains the different setup procedures.

- [Tricaster Now Setup](#)
  - [SRT Input Settings](#)
  - [SRT Output Settings](#)
- [Recommendations](#)
  - [CPU](#)
  - [Bandwidth](#)

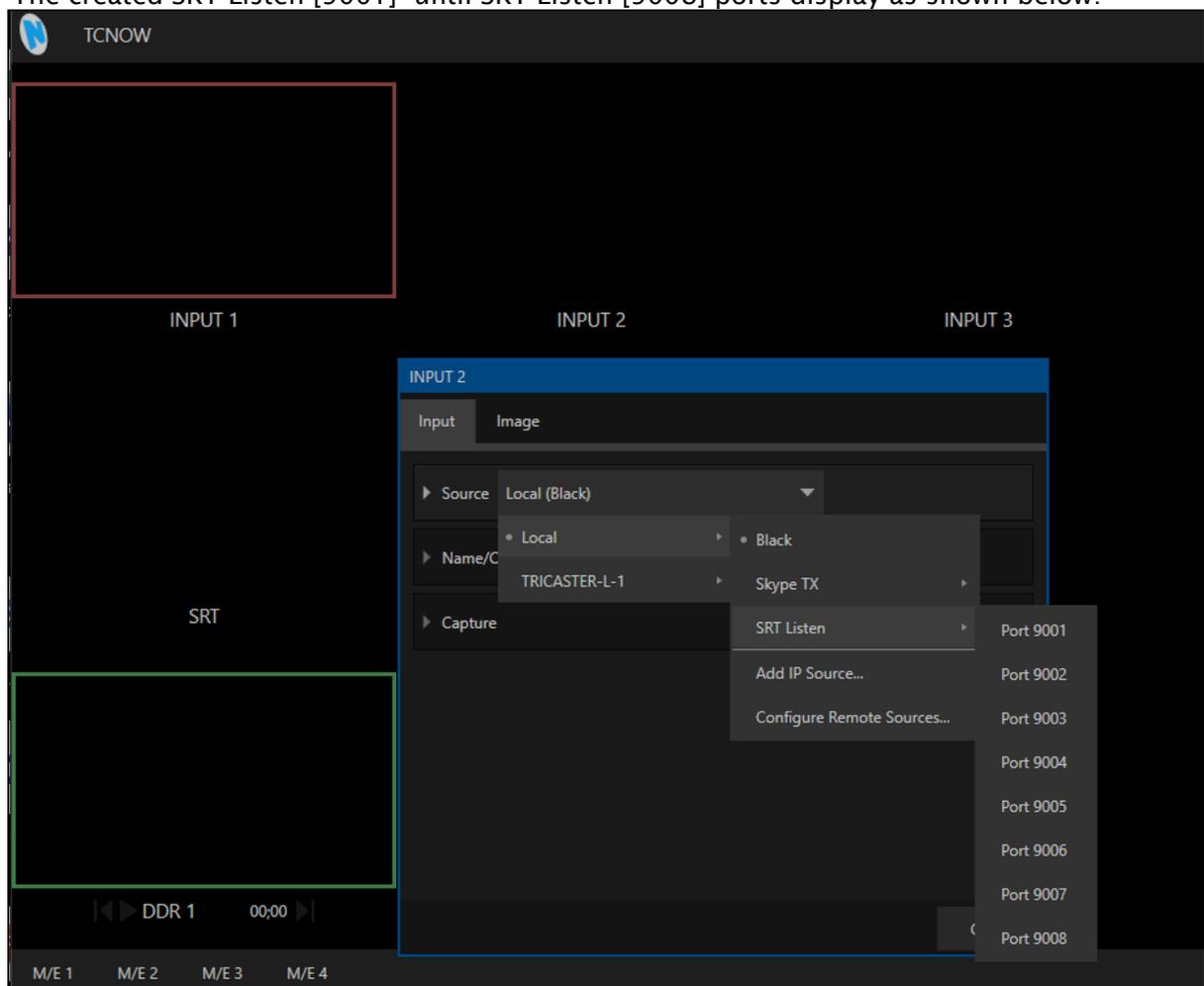
## 2.5.2 Tricaster Now Setup

### SRT Input Settings

By Default, Tricaster Now already has 8 x SRT Inputs (*listener* mode) configured as inputs ready for use.

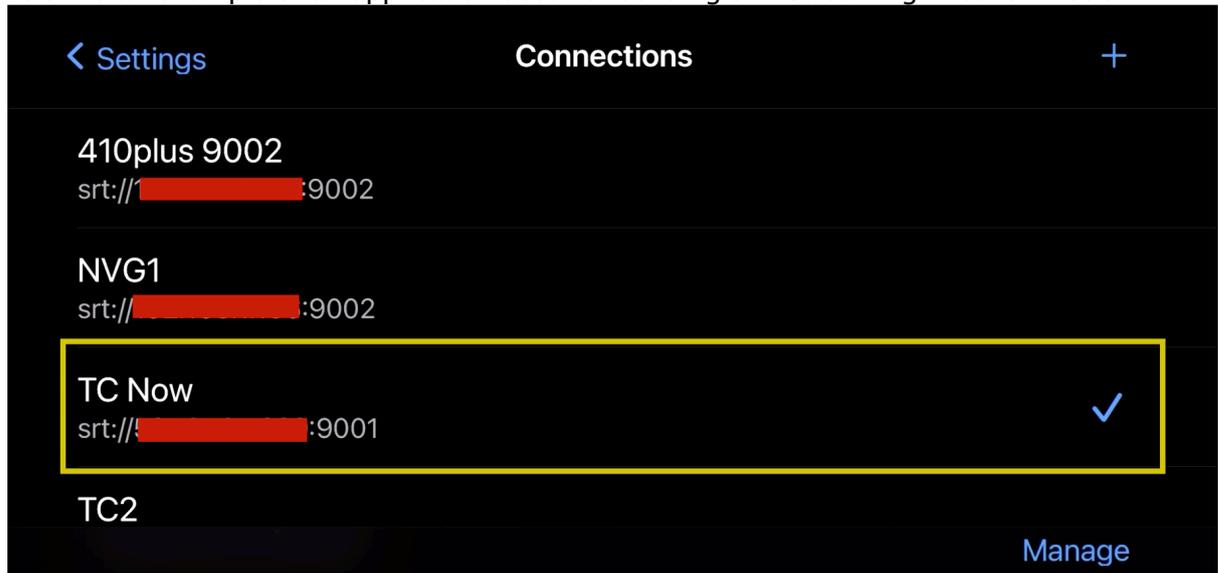
### To configure SRT Input Settings

1. With the Tricaster Now session opened, choose any free input.
2. Click the gear  icon and from the **Input** tab, select **Source > Local > SRT Listen**.  
The created SRT Listen [9001] until SRT Listen [9008] ports display as shown below:



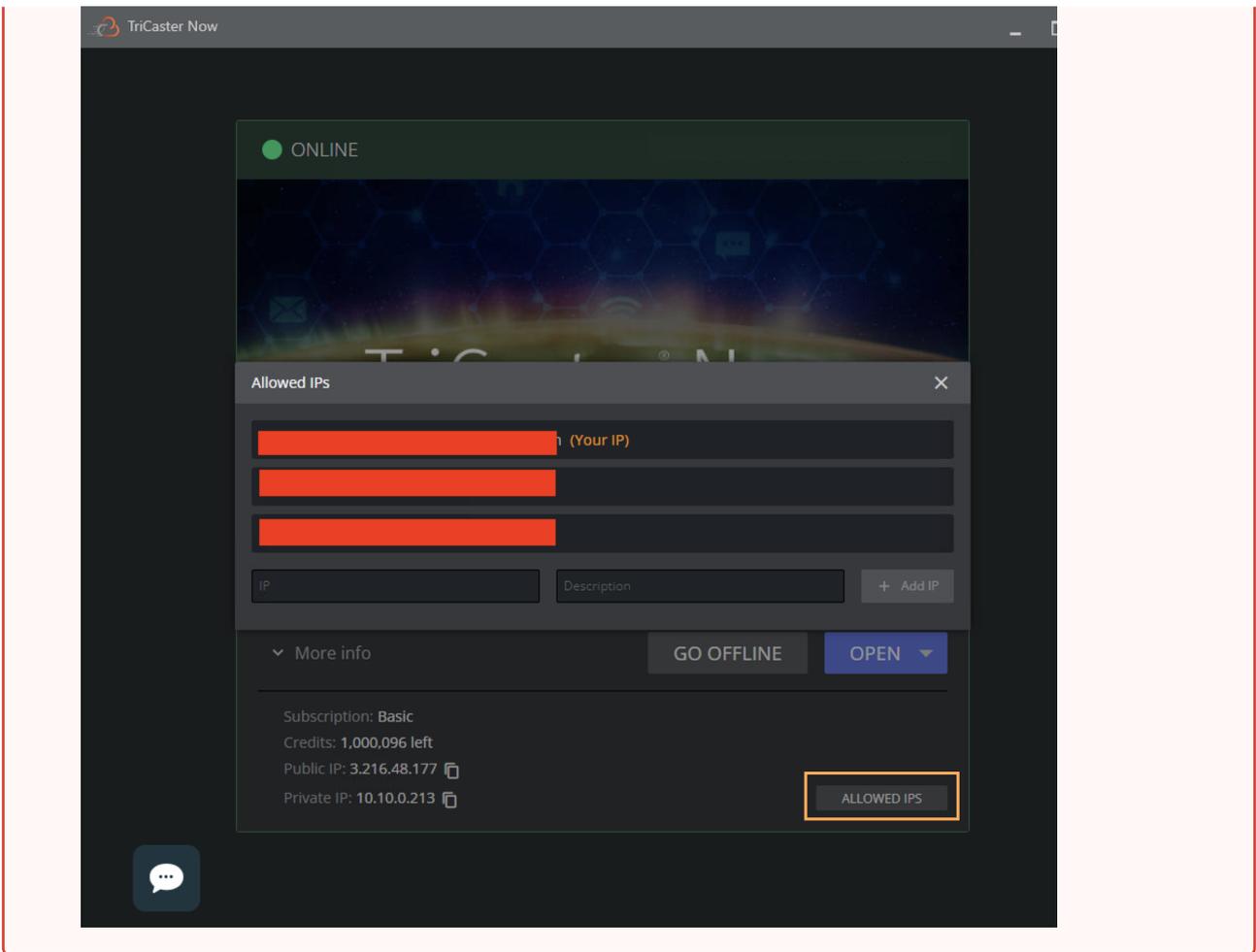
3. In the example above, if you choose **SRT Listen > Port 9001**, for the caller (the device that will send the SRT feed to Tricaster Now) the configuration is set up by the Public IP and the port 9001: `srt://<public ip>:9001`.

Below is an example of an application used for sending SRT Streaming in *caller* mode:



 **Important**

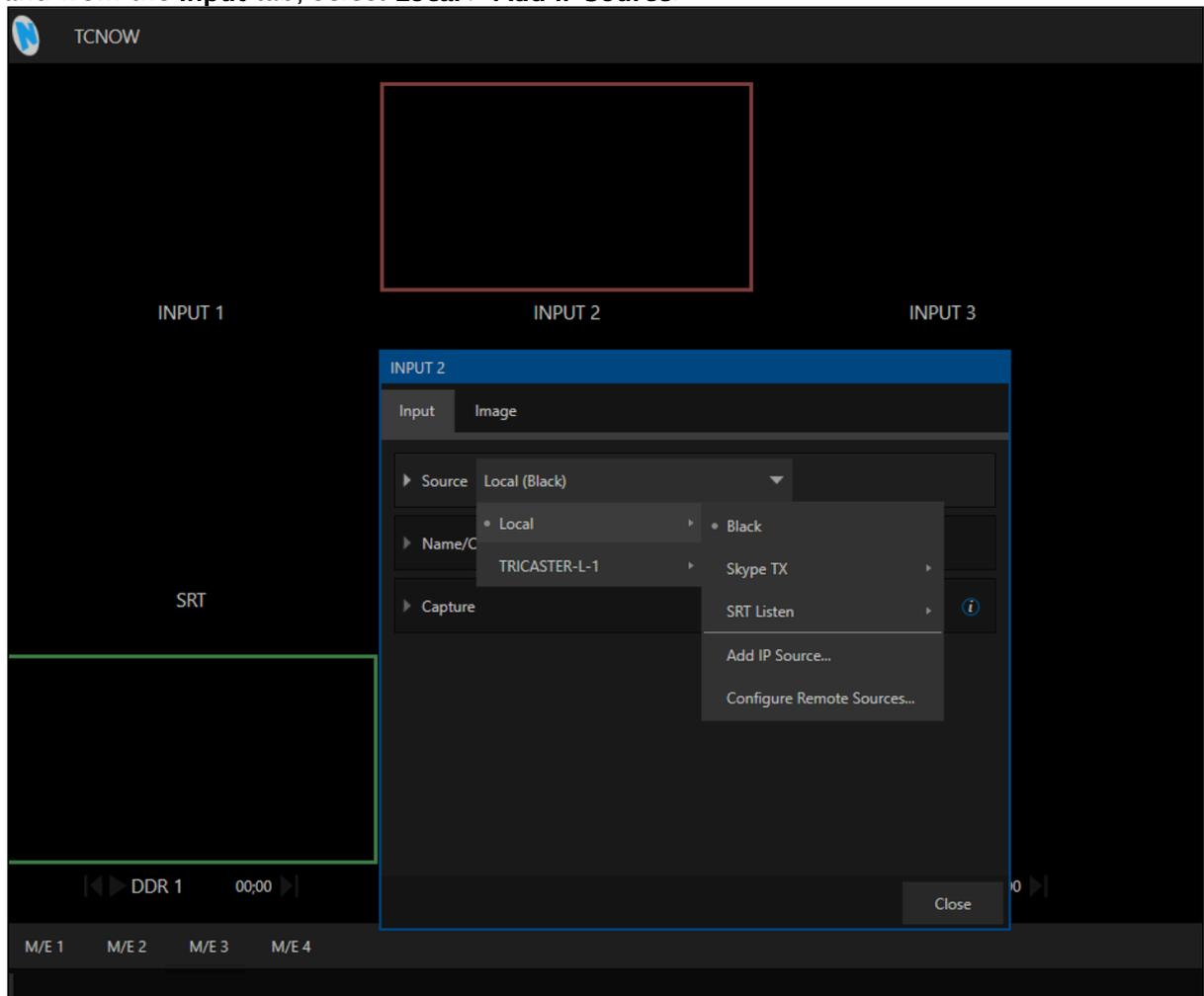
In Tricaster Launch Pad, remember to grant access to the Source IP where SRT feed is being transmitted, by clicking in **ALLOWED IPs** and inserting the Public IP as shown below:



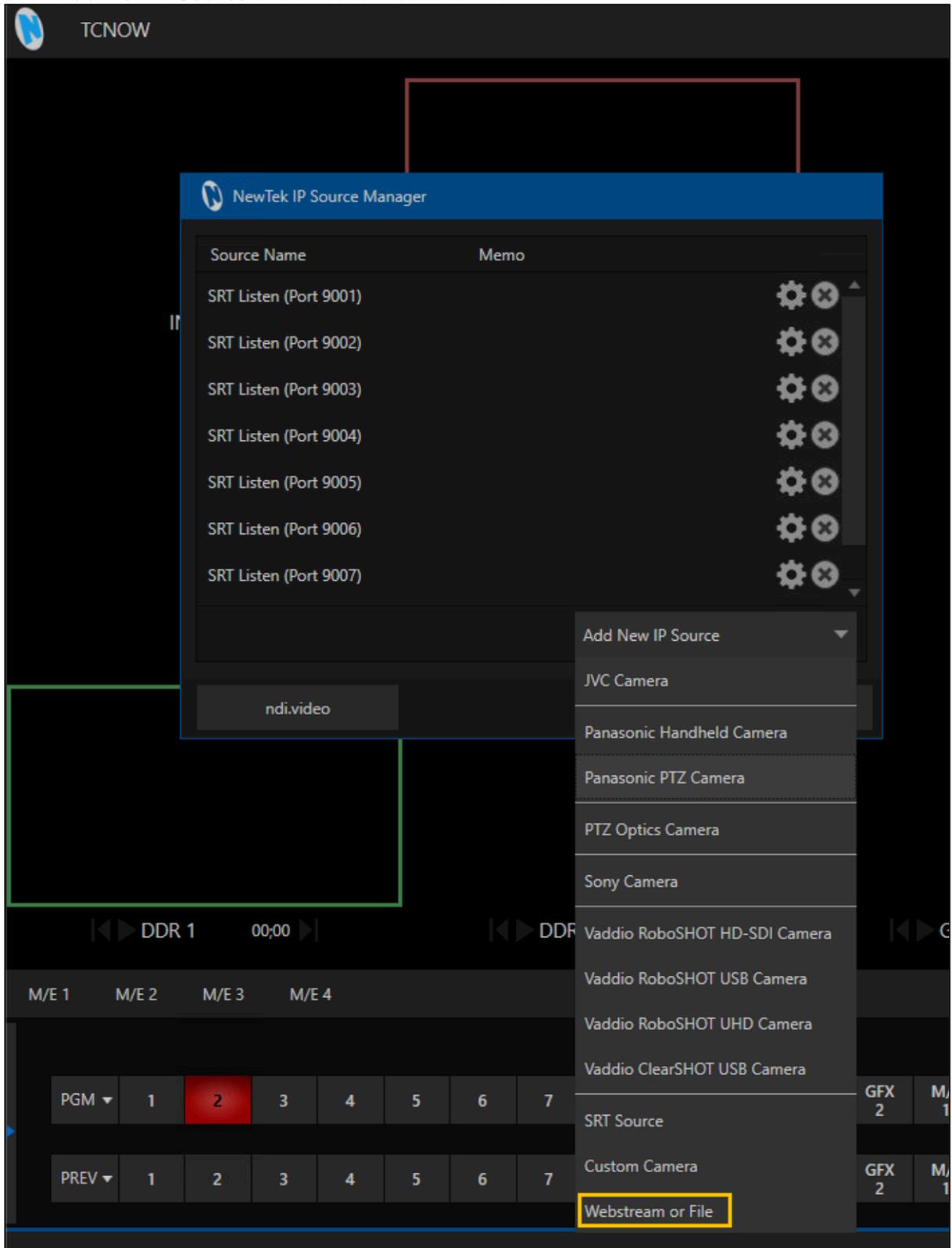
## To configure SRT Input Settings

For different ports automatically set up in Tricaster Now (9001 to 9008), proceed as explained below.

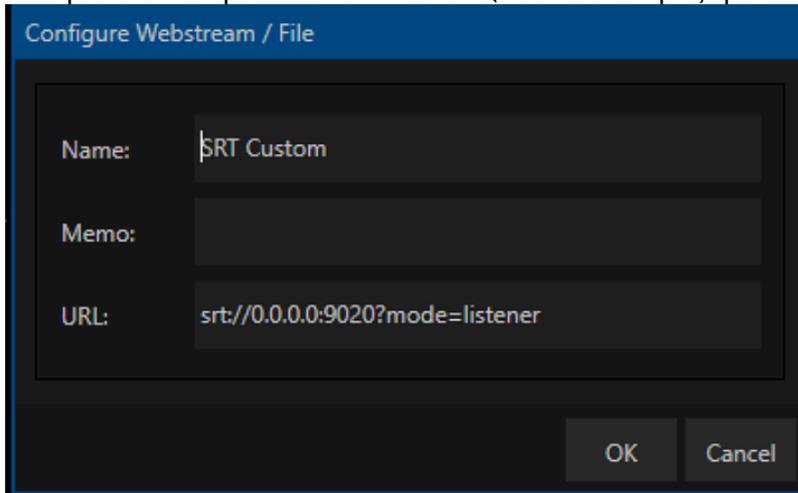
1. With the Tricaster Now session opened, choose any free Input and click the gear  icon and from the **Input** tab, select **Local > Add IP Source**.



2. Click **Add New IP Source** and choose *Webstream or File*.



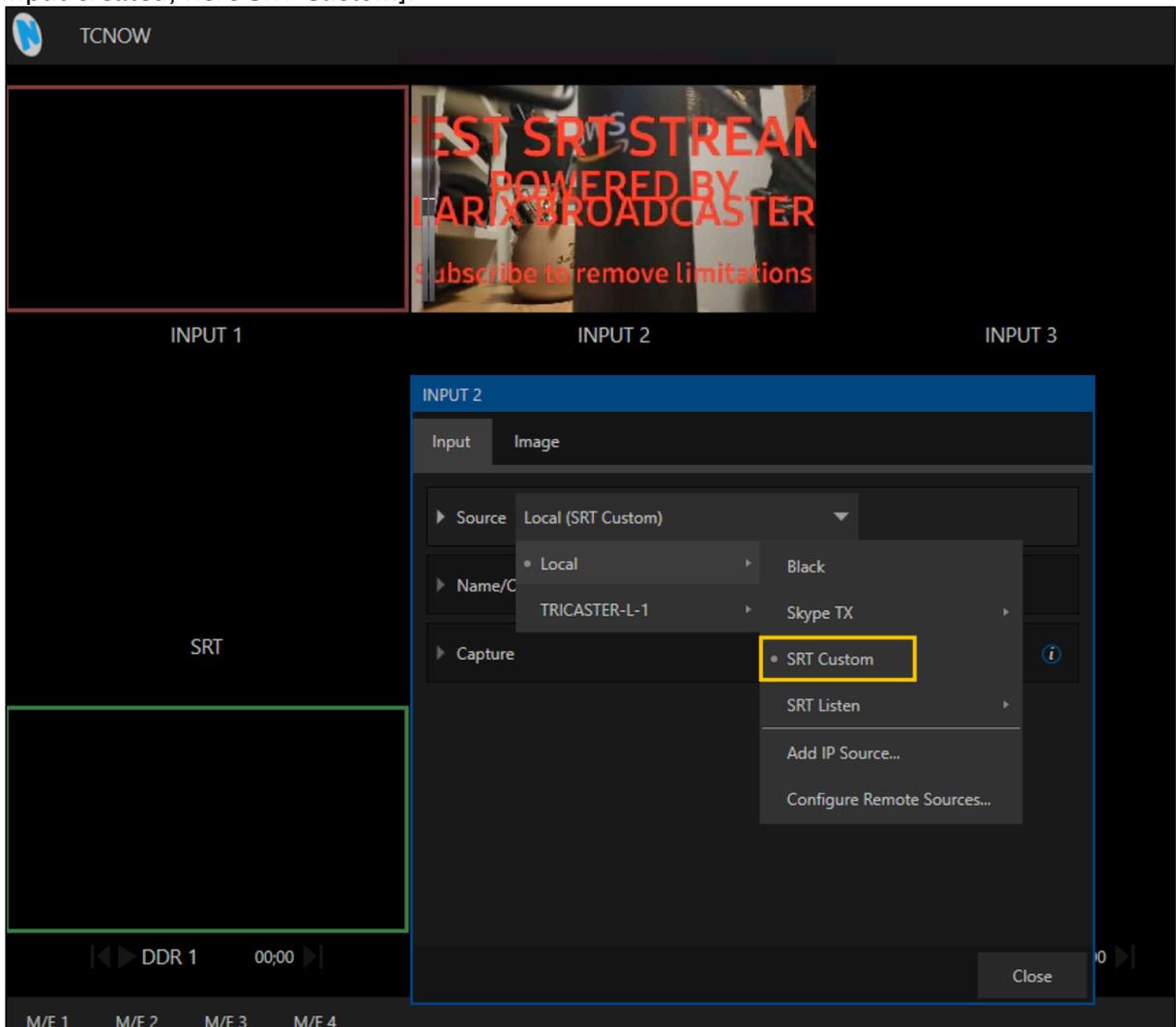
3. Set up the SRT Input as shown below (in this example, port 9020 is used):



The screenshot shows a dialog box titled "Configure Webstream / File". It contains three input fields: "Name:" with the text "SRT Custom", "Memo:" which is empty, and "URL:" with the text "srt://0.0.0.0:9020?mode=listener". At the bottom right, there are two buttons: "OK" and "Cancel".

4. Click **OK**.
5. Close Tricaster session and open it again.

- Click the gear  icon and from the **Input** tab, select **Local > SRT Listen > [Name of the SRT input created, here SRT Custom]**.

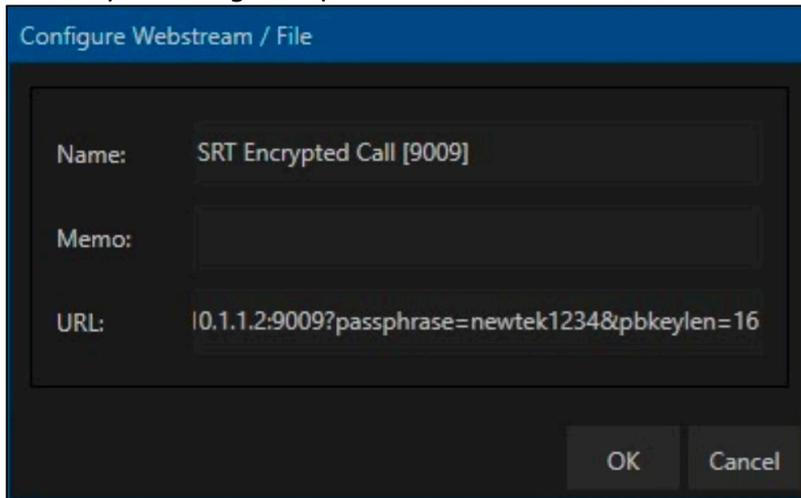


### To configure Additional SRT Settings

If you are using the Webstream or File SRT option, there are additional parameters that can be appended to the URL.

- Enter these parameters after the main URL as shown above, each key/value pair is separated by an '&'.
  - passphrase=string**: Encryption string from 10 to 79 characters. Not needed if pbkeylen is 0.
  - pbkeylen=bytes**: Encryption key length. Values of 0, 16, 24 or 32 valid. Default value is 0.
  - peerlatency=milliseconds**: Latency value that is established by the sender as minimum value for the receiver.

- **rcvlatency=milliseconds**: Time that should elapse between the packet being sent and delivered. Value should be large enough to cover the RTT time and the time to send another packet if needed.
- **streamid=string**: Required if a stream id is specified for the SRT stream.
- **hw\_accel=false**: GPU acceleration is typically used and preferred, in some rare instances the H.264/HEVC parameters might not be compatible with GPU decoding. While this detection is attempted to be automatic, there might be cases where manually disabling is required.



#### Important

- Tricaster Now has set up opened ports from *9001* to *9020*. Please only use these ports for SRT Inputs and Outputs configuration.
- An SRT *listener* source can only receive a connection, when it is configured on a TriCaster Now input.

## SRT Output Settings

SRT can be used along with any other streaming options found in TriCaster.

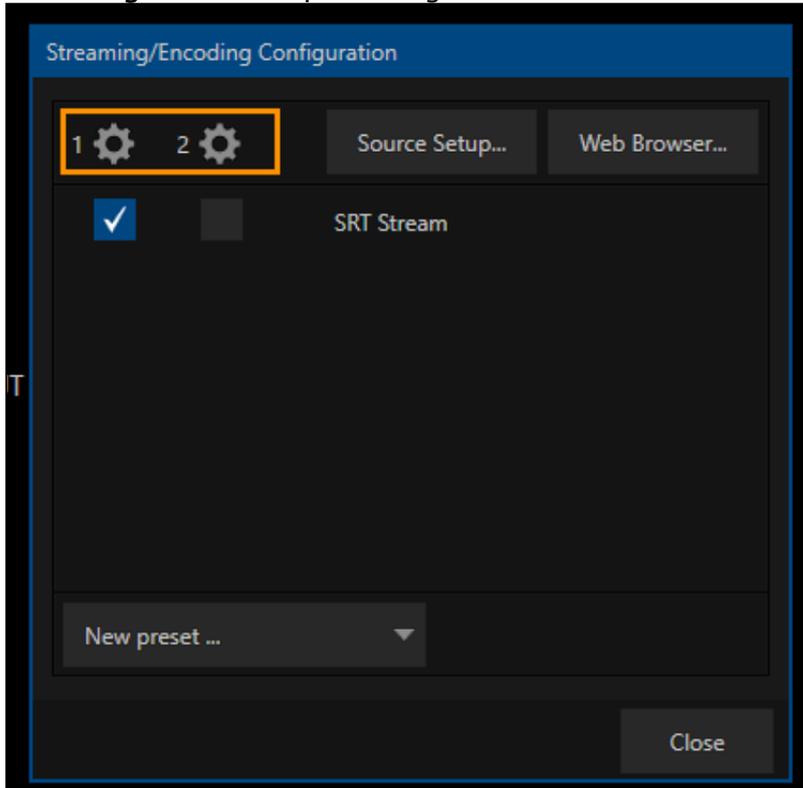
### To configure SRT Output settings

1. On the menu bar, select **Stream/Encode**, click the **gear** icon.

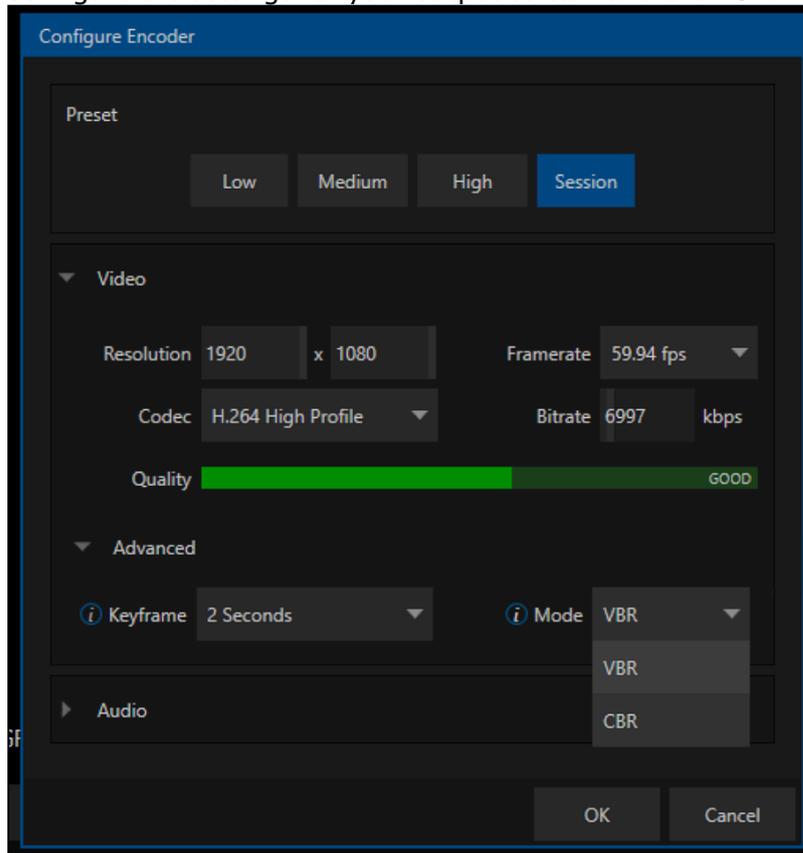


2. At the top left corner of this panel a gear icon represents the number of the stream channel output of the TriCaster system.

Click the **gear** icon to open configuration of the encode settings.



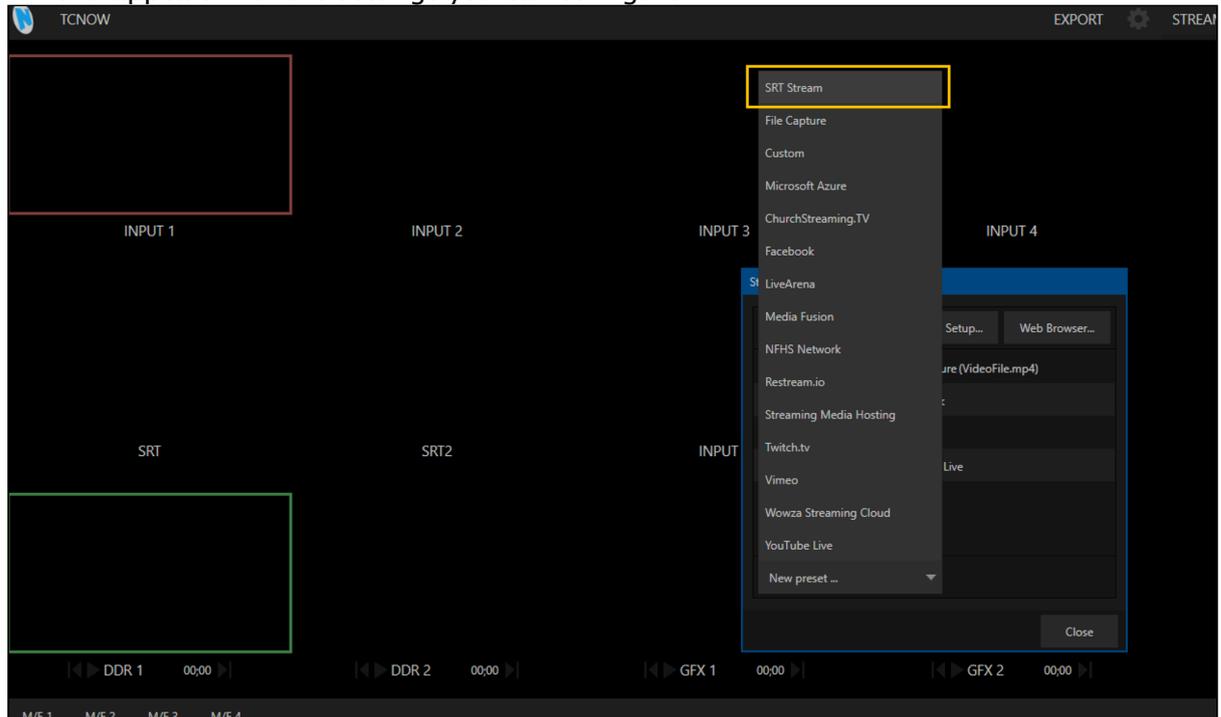
3. Configure the settings for your output stream and click **OK**.



**i** If you need to send out different signals, it is possible to configure multiple encoders with individual encode settings for each.

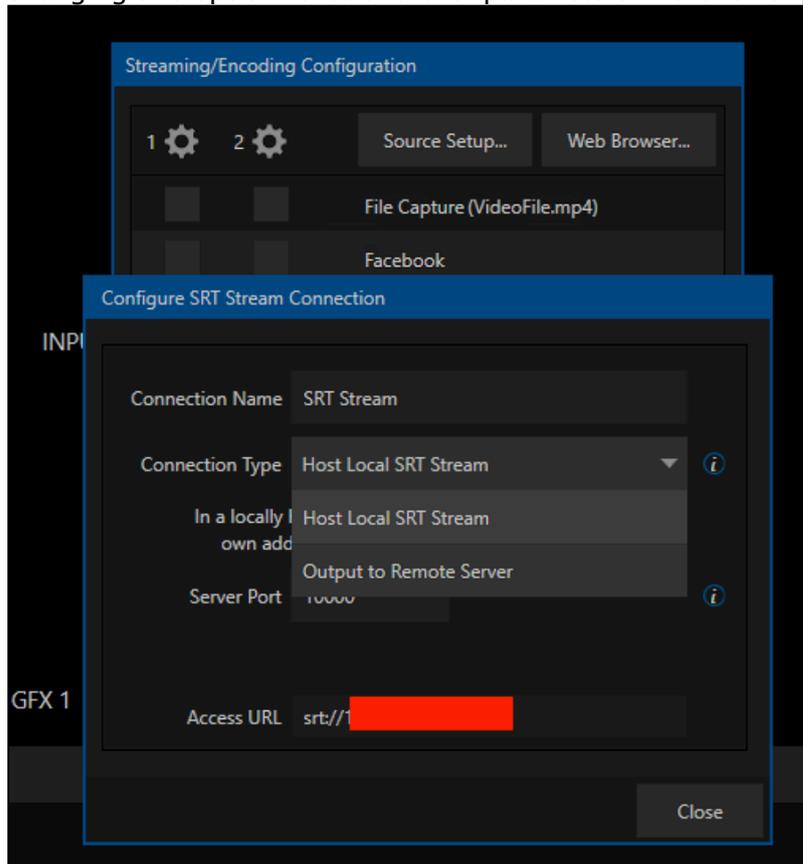
4. To add a new SRT output stream, click **New preset** and in the list of streaming presets, choose an SRT Stream.

A menu appears with the settings you can configure.



5. **Connection Name** is a location for the name of this SRT stream. Clicking the drop down menu presents two options.
- Host Local SRT Stream
  - Output to Remote Server.

Changing this option reveals further parameters in the lower part of the panel:



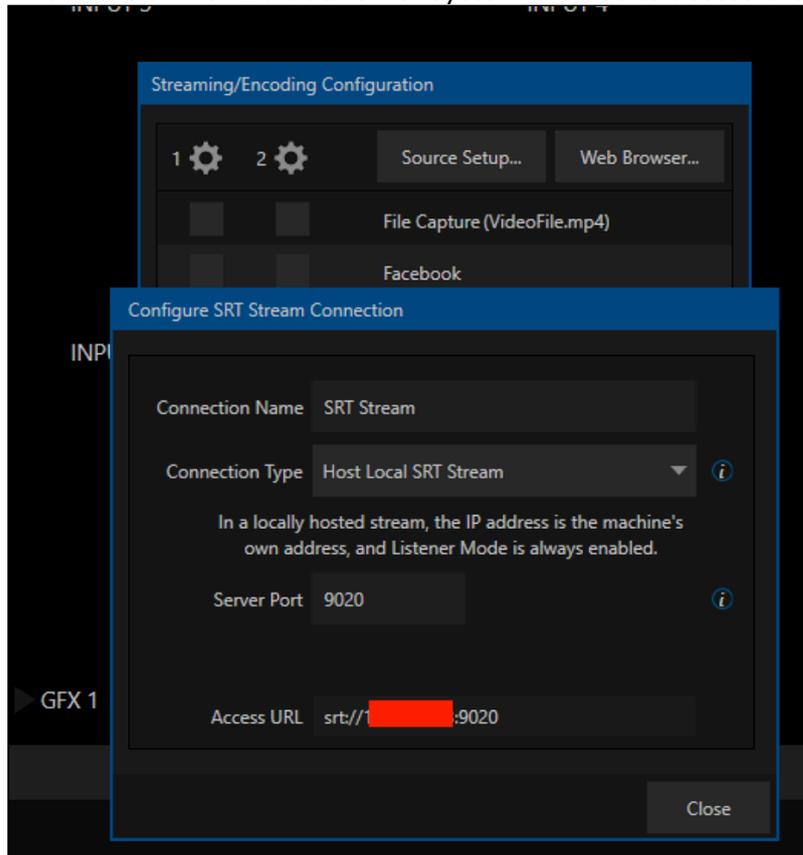
## Host Local SRT Stream

If you want to have the TriCaster Now generate the stream with another system initiating the call to it, this is the mode you want to use. The TriCaster always operates in the SRT *listener* mode.

To configure a host local SRT stream

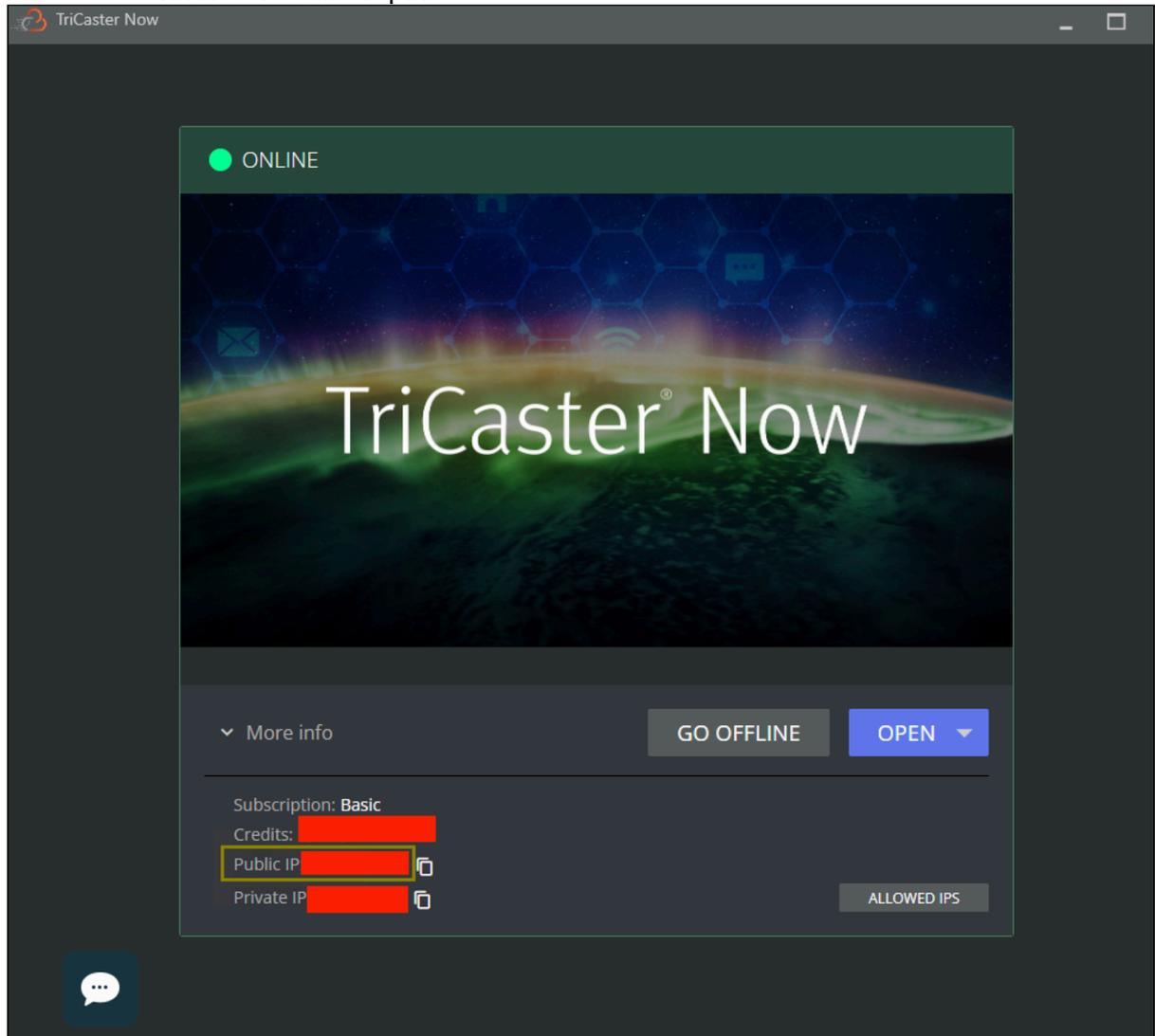
1. There is one option to set, **Server Port**.  
At the bottom of the panel, select **Access URL**.

This is the SRT URL that another system will use to access the TriCaster.



2. Click **Close** to finish.
3. The IP address that appears in **Access URL** is the private IP of the TriCaster Now. As soon as the system that is attempting to connect to the TriCaster Now is located on the Internet, you will no longer use this IP. Instead, you need to replace the IP address with the **Public IP** of your Tricaster Now, as

shown in Tricaster Now Launchpad.



#### ⚠ Important

- Remember that ports set up in Tricaster Now are from 9001 to 9020. Ports 9001 to 9008 are automatically set up as SRT inputs.
- For production setup, use ports from 9009 to 9020 for SRT *outputs*.

### To configure output to the remote server

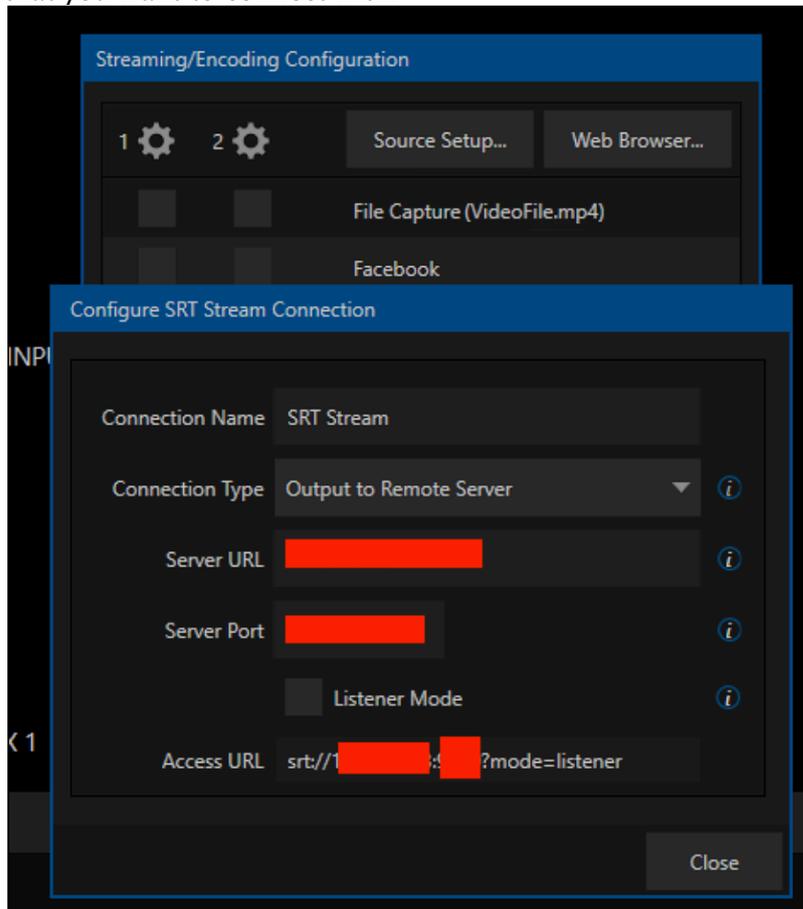
If the TriCaster Now needs to generate the stream and initial the call to another device, then you want to use the *Output to Remote Server* option. This has more settings to configure.

1. This mode allows two methods of operation to be selected using the **Listener Mode** checkbox. With this box checked, the operation will be identical to *Host Local SRT Stream*.

2. *Output to Remote Server* mode with the **Listener Mode** checkbox deselected is the more common option.

This makes the TriCaster Now operate in *Caller* mode, allowing the TriCaster to initiate the connection to another system.

In **Server URL** and **Server Port**, enter the Public IP address and port of the remote SRT system that you want to connect with.



3. Click **Close** to finish.

#### **Important**

- Remember that ports set up in Tricaster Now are from 9001 to 9020. Ports 9001 to 9008 are automatically set up as SRT inputs.
- For production setup, use ports from 9009 to 9020 for SRT *outputs*.

## 2.5.3 Recommendations

### CPU

SRT, while efficient in video streaming, is known to be CPU intensive. Typically, each SRT feed can consume about 6% of Tricaster Now CPU resources. To ensure optimal performance of Tricaster

Now and to preserve its capability for other system functionalities, it is recommended to carefully balance the number of simultaneous SRT inputs and outputs.

- A good practice is to limit these to a maximum of *four* at any given time. This balance is crucial for maintaining the overall efficiency and responsiveness of the Tricaster Now system.

## Bandwidth

SRT bandwidth usage is crucial for maintaining video quality.

- For optimal performance, it's recommended to allocate between *6 to 20Mbps of bandwidth per stream*.

This range ensures high-quality video while keeping the network load manageable. Users should adjust the stream's quality to align with their available bandwidth. Remember, higher quality streams will naturally require more bandwidth and more CPU usage in Tricaster Now. Striking the right balance between video quality and bandwidth usage is key to achieving smooth and efficient streaming, without overwhelming your network resources

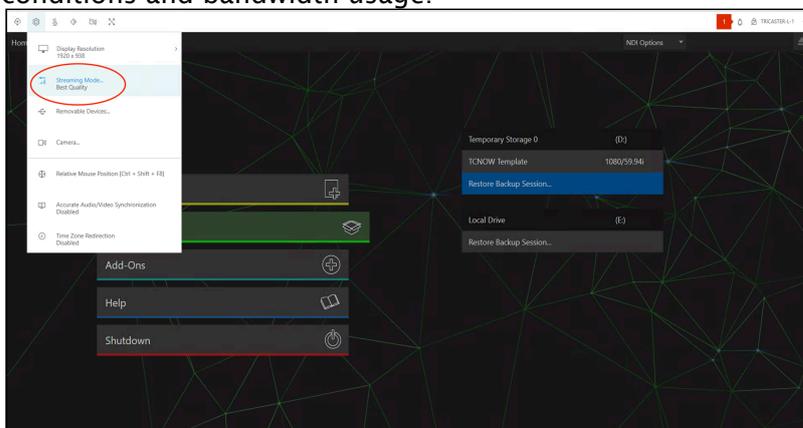
 Check the section Recommended Configurations for detailed information

## 2.6 Display Resolution

Before starting your production, it is important to verify the performance of your local monitors. This is important because the number of displays and resolution of those displays are mirrored into TriCaster Now.

### 2.6.1 NICE DCV

1. Click **Settings** (gear icon) in NiceDCV client and select **Streaming Mode**. Here you enter details about the connection with TriCaster Now such as responsiveness, quality, network conditions and bandwidth usage:



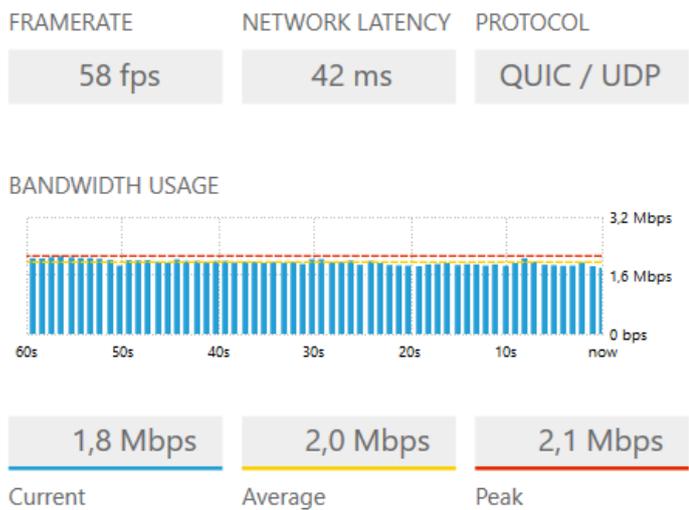
2. Choose an option for the connection performance: *Best responsiveness* or *Best quality*. We recommend leaving the configuration as suggested, *Best Quality*, unless you have a very

poor quality bandwidth:

Streaming Mode (QUIC) ×

- Best responsiveness**  
Provides most fluid experience
- Best quality**  
Provides best image quality

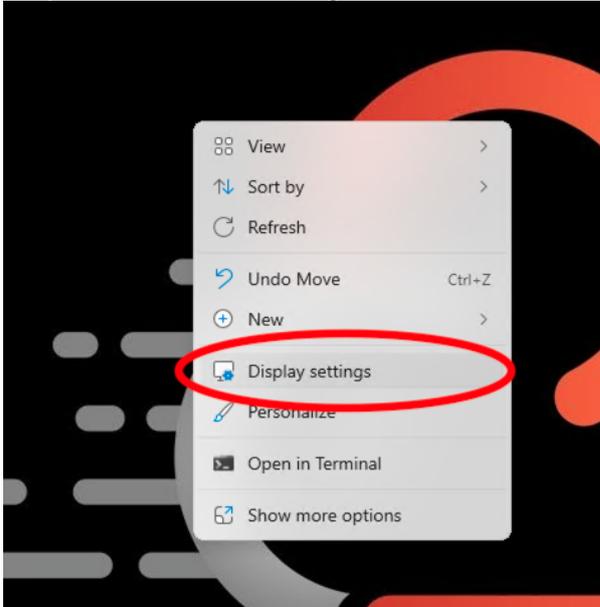
**High color accuracy (YUV 4:4:4)**  
Streaming performance could be affected



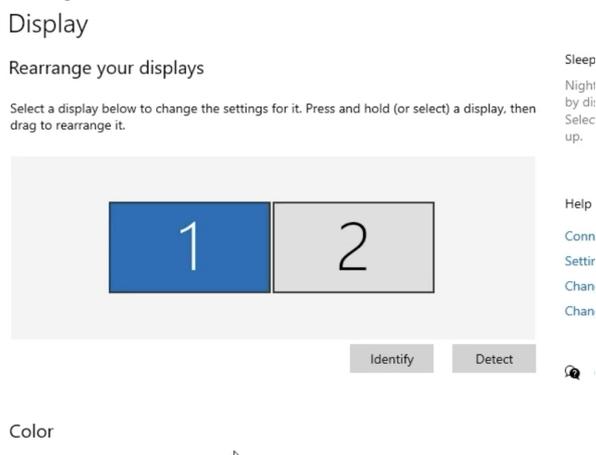
## 2.6.2 Local Monitors

To calibrate local monitors

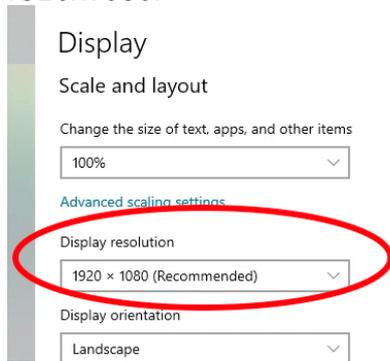
1. On your local machine, right click on the Desktop and select **Display settings**:



2. Verify if the number of monitors that you have physically connected are appearing in Display settings (in the example below we have two):



3. Verify that (all) monitors have the recommended TriCaster Now operation resolution **1920x1080**:



4. Close **Display settings** once finished.

---

## 3 Planning Your Production

This section offers you some assistance, before going On Air with your production.

- [Estimating Credits Required for a Live Production](#)
- [Verifying Platform Usage and Time Remaining](#)
- [Firewall and Network Best Practices](#)
- [Public and Private IP Addresses Explained](#)
- [Estimating Bandwidth Requirements](#)
- [Detailed setup of Nice DCV for Your Live Production](#)
- [TriCaster Now Live Session: Disk Setup and Usage](#)
- [Control Surfaces for TriCaster Now](#)
- [Stream Deck as a TriCaster Now Control Surface](#)
- [TriCaster Now Live Panel](#)
- [Auto Shutdown](#)

---

## 3.1 Estimating Credits Required For A Live Production

Performing a live production with TriCaster Now requires careful planning to ensure you have an adequate credit to cover your usage.

These guidelines can help you with estimating required credits for your live production, based on a sample workflow.

### 3.1.1 Workflow Description

As an example, we consider a common live production scenario using TriCaster Now.

- **TriCaster configuration:** A TriCaster Now instance with eight video inputs and two video outputs, set to HD video quality using the H.264 codec.
- **Distribution:** Live streaming distribution using two different video Content Delivery Network (CDN) endpoints.
- **NICE DCV:** Two screen monitors running NICE DCV for remote control and monitoring.
- **Multiview Composition:** Downloading of one stream with a multiview composition that includes video feed inputs and outputs for monitoring.

### 3.1.2 Factors to Consider

To estimate required credits, consider:

1. **Setup and rehearsal time:** Calculate the time required for setting up your live production, including the configuration of your TriCaster Now instance, testing equipment, and rehearsing the show.
2. **Expected show time:** Determine the duration of your live show, including any pre-show and post-show segments.
3. **Post-live show activities:** Estimate post-live show activities, such as downloading media assets, archiving and any additional post-production tasks.

### 3.1.3 Estimating Credit Usage

Based on the sample workflow and factors, you can typically expect to use approximately **three credits per hour**.

To ensure you have an adequate margins, the three credit estimate contain some **contingency (10-20%)**. This helps cover unexpected usage spikes or last-minute changes.

### 3.1.4 Recommendations

Here are some recommendations for eliminating potential risks.

1. **Early setup:** Avoid setting up your live production too close to the start time. Set up well in advance to ensure everything is running smoothly.
2. **Offline mode:** If possible after setup, consider going *Offline* (avoiding *Archiving*) and then going back *Online* before the live broadcast, so minimizing wait times.

3. **GPU machine availability:** Be aware of potential scarcity in GPU machine availability, especially during peak times.

 **Note:** The above estimation is based on the sample workflow. Actual credit usage will differ, depending on your specific setup. It is advisable to keep a close eye on your credit balance during the live production and have additional credits available if needed.

## 3.2 Verifying Platform Usage And Time Remaining

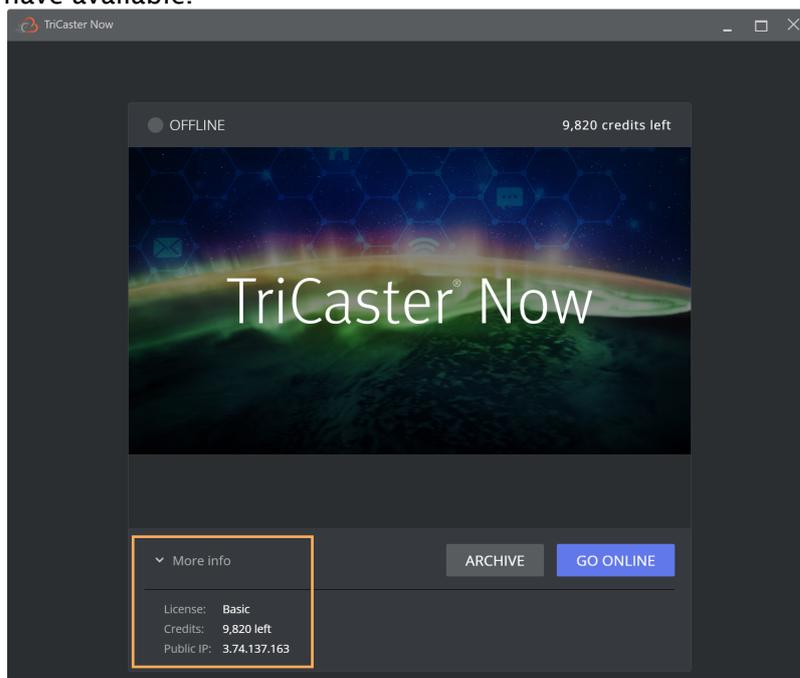
TriCaster Now provides users with basic tools for monitoring usage and estimating available production time, based on remaining credits.

For the current version of TriCaster Now, these simple methods can help you keep track of your credits and ensure you have enough time for your live productions.

This section help you verify your platform usage and estimate time remaining.

### 3.2.1 Monitoring Credits with Viz Now LaunchPad

1. Launch Viz Now LaunchPad by opening the Viz Now LaunchPad application on your computer.
2. Login and enter your credentials to log in to your TriCaster Now account.
3. In the Viz Now LaunchPad interface, click on **More info**. This displays how many credits you have available.



4. **During your production.** Monitor credits by keeping an eye on your credit balance while you work on your live production. This balance decreases as you use the TriCaster Now platform.

### 3.2.2 Estimating Remaining Time

While a more detailed platform usage report is coming soon, you can estimate your remaining time based on your credit balance and the usage rate of credits during your live production.

A simple estimation method:

1. **Check Credit Usage Rate:** Based on your previous usage and the complexity of your live production, estimate the number of credits you use per hour. As a general guideline, for HD video quality using H.264, you can expect to use *approximately three credits per hour* see section [Estimating Credits Required for a Live Production](#).
2. **Calculate Remaining Time:** Divide your available credit balance by the estimated credit usage rate per hour. This gives you an approximate remaining time in hours.
3. **Plan Accordingly:** Use this estimated remaining time to plan your live production. Ensure that you have enough credits to cover the entire duration of your broadcast, including setup, the live show, and any post-show activities.

### 3.2.3 Future Improvements

TriCaster Now is continuously evolving, and Vizrt is working on providing users with more comprehensive and detailed platform usage reports.

These reports offer you a more accurate and real-time view of your credit usage, making it easier to manage your live productions effectively.

In the meantime, please use the basic monitoring tools available in Viz Now LaunchPad and the credit estimation method to ensure a smooth and successful live production.

## 3.3 Firewall And Network Best Practices

This section provides detailed network and firewall information for achieving optimal configuration and performance in Tricaster Now.

- [Firewall Ports](#)
  - [NDI Ports](#)
- [Network Design Best Practices](#)
  - [Configuring NDI Protocols and Receive Mode](#)
  - [Infrastructure](#)
  - [Security Recommendations](#)

### 3.3.1 Firewall Ports

Tricaster Now mandates that the computer operating both Launchpad and NDI Bridge (Join) must have access to specific network ports.

- It is essential to ensure these ports are open and available for seamless functionality.

Source	Destination	Protocol	Port	Service	Information
		TCP	443	Live Panel	Secure access to Tricaster Now cloud switcher through web browser.

<client network>

For example: 192.168.0.0/24

<Tricaster Now Instance's Public IP>

Source	Destination	Protocol	Port	Service	Information
		TCP	8443	Remote Access (Nice DCV)	<p>Secure Remote Access facilitates a connection from an on-premises location to your Tricaster Now instance.</p> <p>By default, this secure remote access utilizes either TCP 8443 or UDP 8443 ports. The system intelligently checks the availability of UDP 8443 first. If not accessible, it automatically switches to using TCP 8443, ensuring a seamless and flexible connectivity experience.</p> <div style="border: 1px solid #f9c77d; padding: 10px; margin-top: 10px;"> <p><b>⚠ IMPORTANT</b></p> <p>For optimal performance in environments with high latency and fluctuating bandwidth, such as 5G networks and broadband connections, it is crucial to confirm that the UDP 8443 port is accessible. This ensures a more stable and efficient connection under these variable network conditions.</p> </div>
		UDP	8443		
		TCP	5990	NDI Bridge	<p>NDI Bridge ports</p> <div style="border: 1px solid #f9c77d; padding: 10px; margin-top: 10px;"> <p><b>⚠ IMPORTANT</b></p> <p>To maximize performance, given the unique characteristics of the NDI protocol, it is essential to properly configure UDP protocol ports. This setup is key to leveraging the full potential of the NDI protocol's capabilities.</p> </div>
		UDP	5990		

Source	Destination	Protocol	Port	Service	Information
		TCP	9001-9020	SRT feeds	<p>SRT Ports</p> <p>These ports are used to send an SRT signal from on premises / remote location to the Tricaster Now's cloud switcher.</p> <div style="border: 1px solid orange; padding: 5px; margin-top: 10px;"> <p><b>⚠ IMPORTANT</b></p> <p>The UDP protocol is vital for SRT (Secure Reliable Transport) signals as it offers low-latency transmission, crucial for real-time streaming. It enhances reliability in packet delivery, ensuring high-quality video and audio streaming.</p> </div>
		UDP	9001-9020		
		TCP	49152 - 65535	Ephemeral Ports for SRT and NDI Bridge	<p>Temporary additional ports used by NDI Bridge and SRT feeds.</p> <p>Ephemeral ports play a critical role in NDI Bridge and SRT feeds by providing dynamic, temporary communication endpoints for streaming video and audio data. These ports facilitate seamless, on-demand connections between devices, enhancing flexibility and scalability in cloud live production environments.</p>
		UDP	49152 - 65535		

### NDI Ports

When planning your production, it is important to review firewall ports mentioned on on-premises and remote installations LAN that will be transmitting NDI feeds to Tricaster Now. Sometimes an NDI transmission issue can arise due a limitation in the network of the remote side and not in the cloud.

Port number	Type	Use
5353	UDP	Port used for mDNS communication
5959	TCP	NDI Discovery Server. Optional and beneficial in large configurations, when you need to connect NDI devices between subnets or if mDNS is blocked.

Port number	Type	Use
5960	TCP	This is a TCP port used for remote sources to query a machine and discover all of the sources running on it. This is used for instance when a machine is added by an IP address in the access manager so that from an IP address alone all of the sources currently running on that machine can be discovered automatically.
5961 and up	TCP	These are the base TCP connections used for each NDI stream. For each current connection (at least one port number is used in this range). Common implementations: 5961 ~ 7000
5990	TCP/ UDP	Port used by NDI Bridge
5960 and up	UDP	In version 5 and above, when using reliable UDP connections it uses a very small number of ports in the range of 5960 for UDP. These port numbers are shared with the TCP connections. Because connection sharing is used in this mode, the number of ports required is very limited and only one port is needed per NDI process running and not one port per NDI connection.
6960 and up	TCP/ UDP	When using multi-TCP or UDP receiving, at least one port number in this range is used for each connection.
7960 and up	TCP/ UDP	When using multi-TCP, unicast UDP, or multicast UDP sending, at least one port number in this range is used for each connection.

### 3.3.2 Network Design Best Practices

This section offers expert insights and guidelines for designing a network tailored for hosting live productions, ensuring optimal performance and reliability.

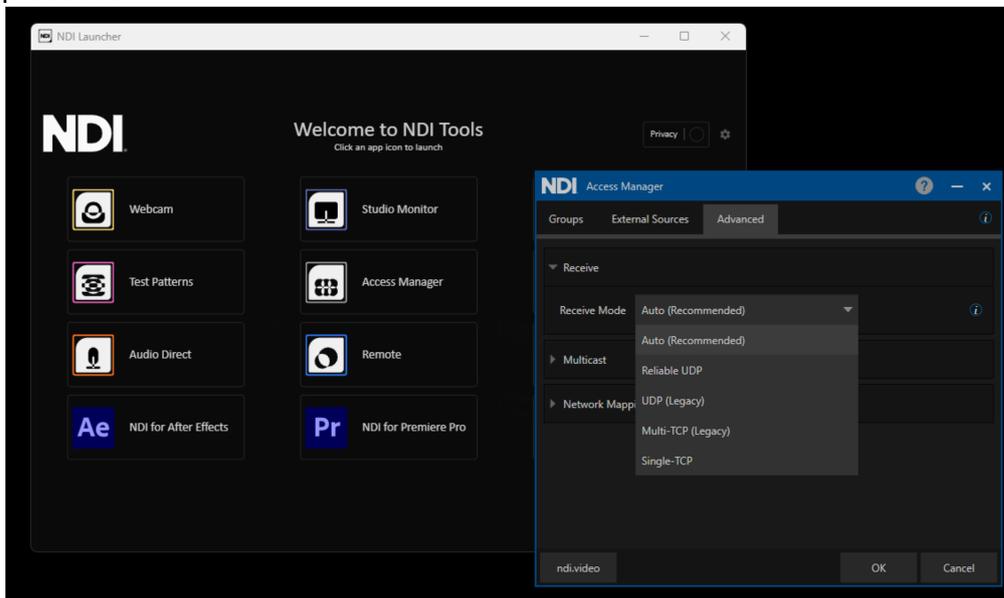
#### Configuring NDI Protocols and Receive Mode

NDI Protocols employ advanced methods for transmitting video and audio over networks:

- **Reliable UDP:** A new addition, excels in challenging network setups, featuring superior congestion control, loss recovery, bandwidth management, and high latency support, ideal for WAN or Wi-Fi.
- **Multipath TCP:** Enhances network utilization by leveraging multiple network paths and NICs, optimizing throughput and redundancy across various networks, including wireless and mobile.
- **UDP with Forward Error Correction:** Suitable for applications where timely delivery trumps accuracy, like streaming media or VoIP, using duplicated data for error control.
- **Single TCP:** Ensures reliable data packet exchange and delivery between host systems.

## To Configure Received Mode

- Configure *Received Mode* in the **NDI Access Manager** for all devices involved in the cloud live production.



### **⚠ IMPORTANT**

**Note:** For seamless utilization of NDI Protocols, it is recommended to keep the configuration setting at *Auto* if you are not sure. This default mode enables the NDI Protocol to automatically select the most suitable protocol based on the prevailing network conditions, such as port availability and switch configurations, ensuring optimal performance without manual intervention.

## Infrastructure

This section provides guidelines for designing and maintaining a network optimized for your live production.

### Cables

- Verify RJ-45 connectors termination quality to avoid issues related to bad performance or errors.
- Ethernet cable should be made of copper, avoid aluminum with copper coating.

### Switches

- When selecting a network switch, prefer to use a managed layer 2 switch at minimum.
- Prioritize throughput speeds. Ensure all ports support full duplex communication with at least 1 Gigabit per second (Gbps) upstream and downstream data speeds.

- For managed switches, manually set ports to 1 Gbps to avoid potential Auto Negotiation issues resulting in slower connections.
- Consider switches with 10 Gbps, but be cautious about shared bandwidth across multiple ports in the backplane, especially for inter-switch connections.
- To minimize security concerns and non desired traffic interference, isolate NDI traffic from important corporate data using VLANs.
- Disable **QoS** (NDI does not use), if you have other software that is QoS enabled (like Dante), then using VLAN to separate networks like mentioned above.
- Enable **Flow Control**, for preventing an interface from overloading a destination, which in turn would cause dropped packets.
- IGMP Snooping: For NDI Multicast.

 Activate this feature only if you have comprehensive expertise in networking.

Needs can vary and specific features might be required at times. This chart is breaks down switch selection into three categories: *Small*, *Medium* and *Large*.

	Small	Medium	Large
<b>Number of NDI Channels</b>	8 channels or less	9 to 60-100 channels	Over 60-100 channels
<b>Interface Types</b>	All 1GbE	Mostly 1GbE Some 10GbE	1GbE and 10GbE
<b>Video Formats</b>	HD	HD/UHD/4K	HD/UHD/4K
<b>Switch Recommendations</b>	Any unmanaged or managed switch	Managed Layer 2 switch	Cut-Through switch

## Network Monitoring

Deploy monitoring software to track NDI traffic and devise a comprehensive strategy for identifying, executing, and conducting detailed monitoring of:

- **NDI Devices**
  - Network bandwidth usage.
  - Network anomalies.
- **NDI Sources and Feeds**
  - Video resolution and frame rate.
  - Frame format.
  - Audio channel count.
  - Audio frame rate.

## Security Recommendations

Important tasks to enhance the security of your NDI Network.

### Firewall Rules

- To lessen the attack surface, configure firewall rules to restrict NDI traffic to only NDI devices, ports, and protocols.

### Regular Operating System and NDI Software Updates

To address any vulnerabilities:

- Keep operating system up to date with the most recent security patches.
- Keep hardware up to date with the most recent patches and firmware.
- Keep network switch firmware and software up to date with the latest security patches and bug fixes to address known vulnerabilities.
- Always work with the latest version of NDI-enabled software.

---

## 3.4 Public And Private IP Addresses Explained

TriCaster Now uses both *public* and *private* IP addresses. Understanding the role and difference between public and private IP addresses is helpful when running your TriCaster Now session.

- [Public IP](#)
  - [What is a Public IP?](#)
  - [Public IP Address Lifecycle](#)
- [Private IP](#)
  - [What is a Private IP?](#)
  - [Addressing inside AWS Virtual Private Cloud \(VPC\)](#)

### 3.4.1 Public IP

#### What is a Public IP?

A public IP address is a unique identifier assigned to a device connected to the internet. This address is globally unique and is used to identify your TriCaster Now Instance on the internet.

#### Public IP Address Lifecycle

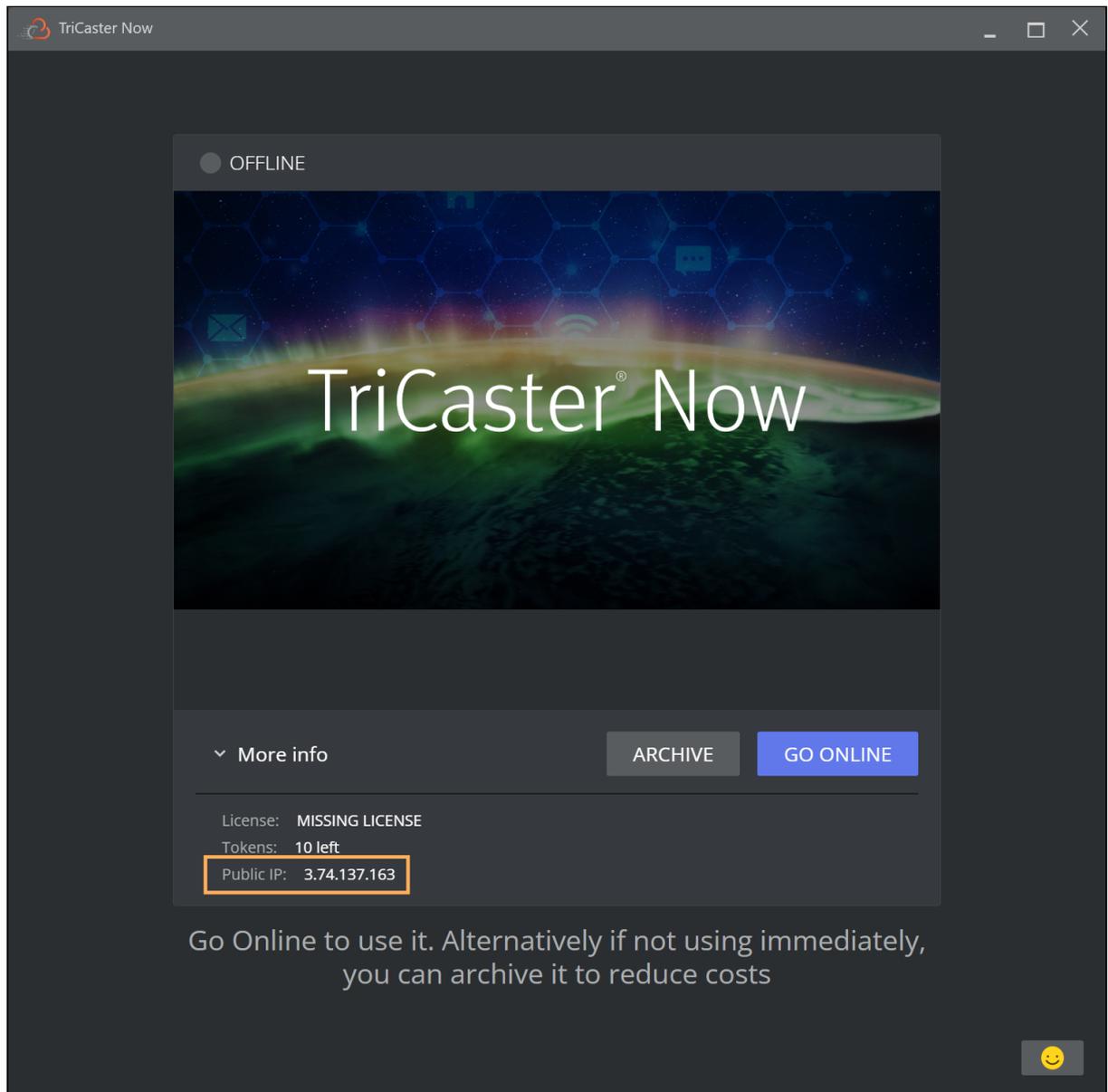
The public IP address assigned to your TriCaster Now instance will change during certain system procedures. It is essential to comprehend these procedures to effectively manage your workflows.

#### When Does Your Public IP Address Change?

- **First deployment:** An IP address is allocated when a TriCaster Now system is used for the first time and released when the TriCaster Now is archived. However, if you go offline and then come back online, the system reuses the *same* IP address.
- **Archiving and Restoring:** The public IP address of your TriCaster Now instance changes each time it is archived and subsequently restored. If you have any references or configurations that depend on the public IP address, *you will need to update them* accordingly after you restore an archived session.

## Locating Your Public IP Address

- You can easily find your current public IP address of your TriCaster Now under **More info** on the Viz Now LaunchPad:



### 3.4.2 Private IP

#### What is a Private IP?

A private IP address is used within a local network (like your home or office network) and is not unique globally. It enables devices within the same network to communicate with each other.

## Addressing inside AWS Virtual Private Cloud (VPC)

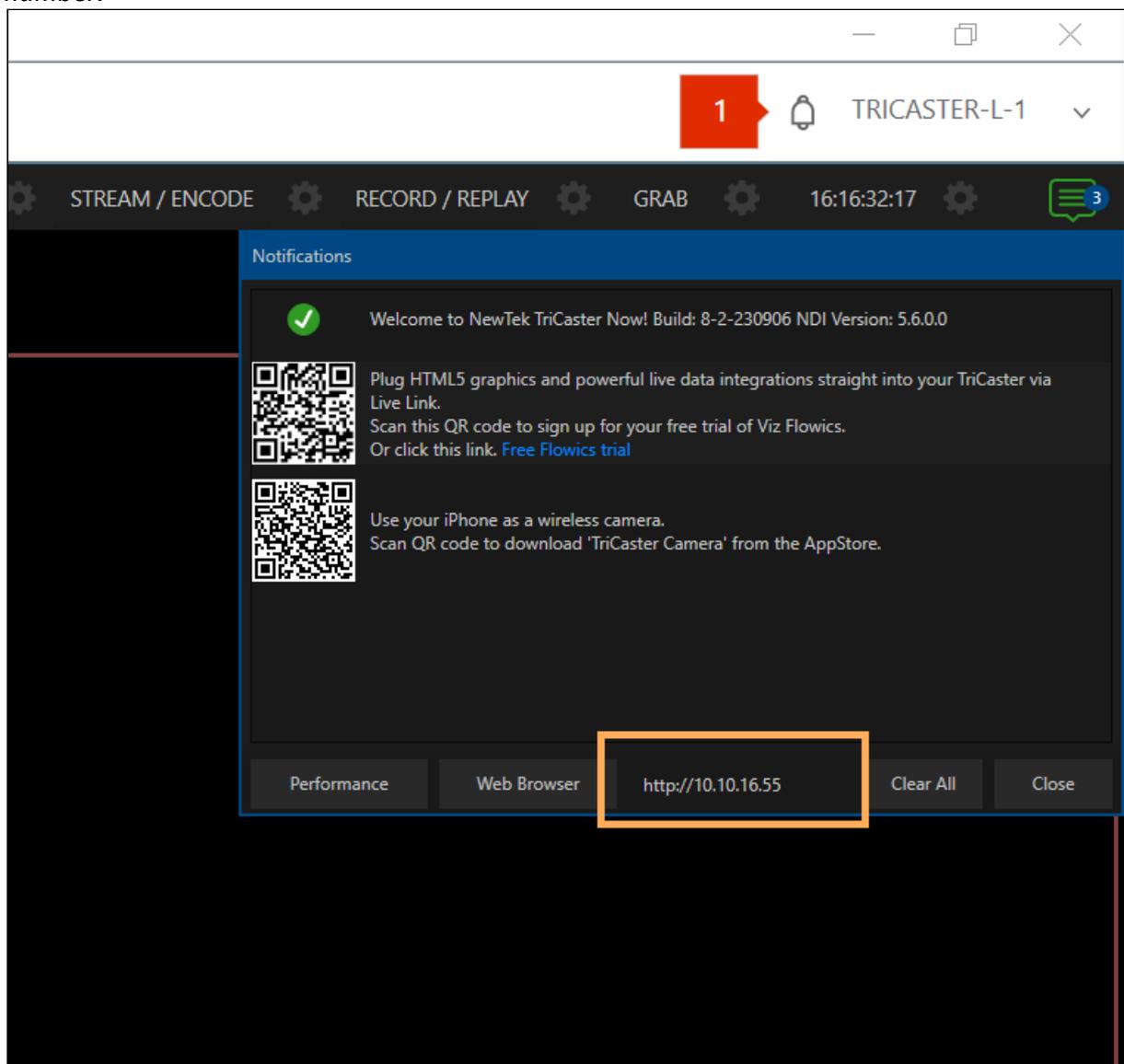
A private IP address is associated with your TriCaster Now session within the AWS VPC.

- This is an internal, private and consistent address that enables communication between instances within the VPC.

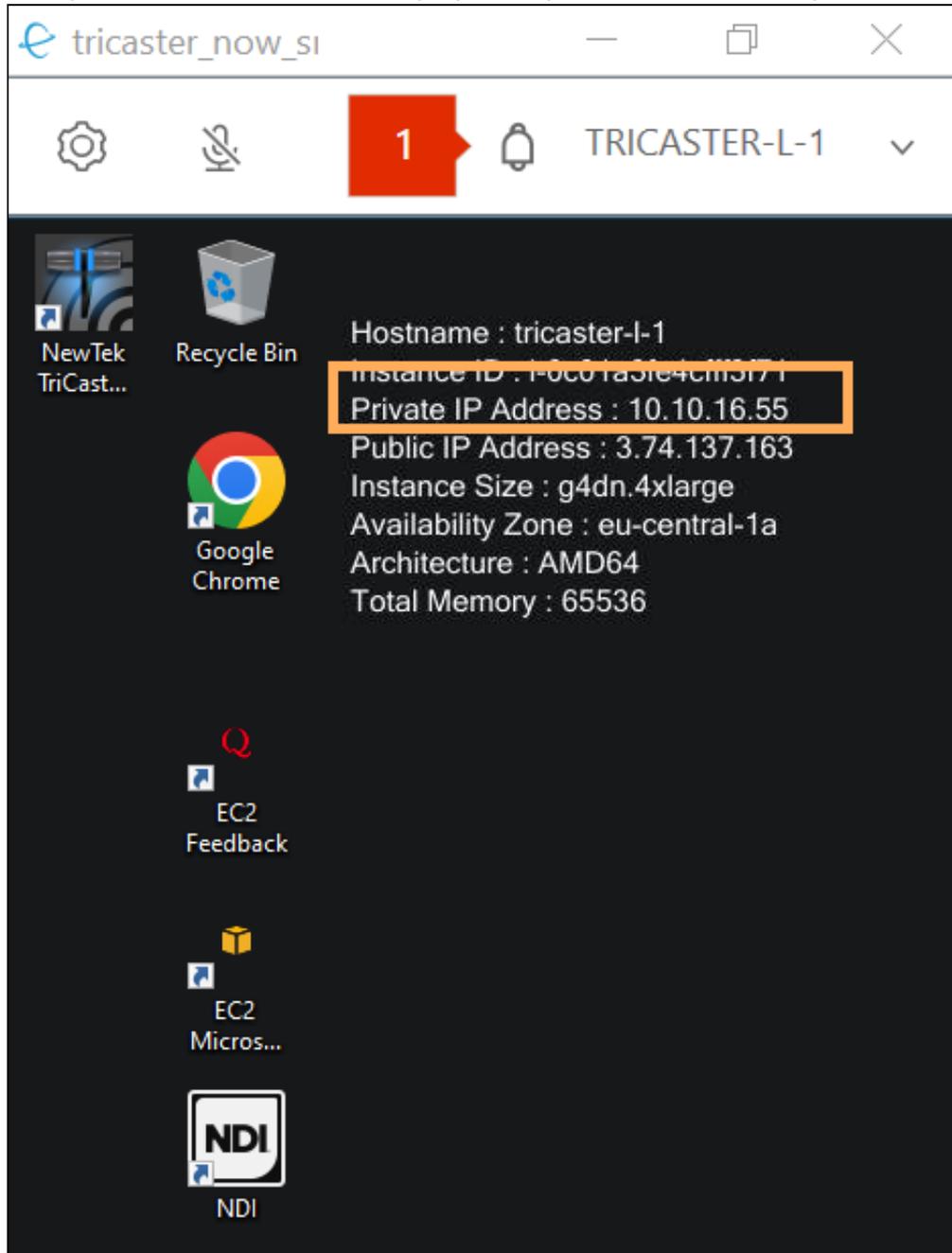
Unlike the public IP addresses, EC2 private IPs **remain stable and do not change upon archiving and restoring**.

## Locating Your Public IP Address

- From TriCaster Now, in the top right click the **Notifications** icon to reveal your private IP number.



- Your private IP number is also displayed on your session's Desktop.



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## 3.5 Estimating Bandwidth Requirements

- [Step 1: Calculate Upload and Download Requirements](#)
- [Step 2: Consider Multi-Viewer Output for Monitoring](#)
- [Step 3: Consider Nice DCV PCoIP Requirements](#)
- [Step 4: Consider Transport Stream Requirements](#)
- [Step 5: Plan for Contingency](#)
- [References](#)
  - [NDI Full Bandwidth](#)
  - [NDI HX, NDI HX H264 & HEVC e NDI HX3 H264 & H265](#)
    - [NDI HX](#)
    - [NDI HX H264 & HEVC](#)
    - [NDI HX3 H264 & H265](#)
  - [NDI Bridge](#)
  - [Calculation Example](#)

This guide provides step-by-step instructions for estimating bandwidth requirements for a live video and audio production.

The bandwidth requirements depend on several factors, including the number of live feeds, the type of transport stream used, and the number of screens used for monitoring.

### 3.5.1 Step 1: Calculate Upload and Download Requirements

The first step in estimating bandwidth requirements is to calculate the upload and download requirements.

This depends on the number of live feeds being transferred from on-premises to the cloud and back.

For each live feed, consider the following:

- **Video bitrate:** This is the amount of data processed per unit of time. High-definition video requires a higher bitrate and therefore more bandwidth.
- **Audio bitrate:** This is similar to the video bitrate but for audio data. High-quality audio requires a higher bitrate and therefore more bandwidth.

Add up the bitrates for all live feeds to get the total upload and download requirements.

### 3.5.2 Step 2: Consider Multi-Viewer Output for Monitoring

Next, consider the bandwidth requirements for multi-viewer output for monitoring. This depends on the number of screens used and the resolution of each screen.

For each screen, consider the following:

- **Screen resolution:** Higher resolution screens require more bandwidth.
- **Frame rate:** Higher frame rates require more bandwidth.

Add up the bandwidth requirements for all screens to get the total multi-viewer output requirements.

### 3.5.3 Step 3: Consider Nice DCV PCoIP Requirements

Nice DCV PCoIP (PC-over-IP) is a high-performance remote display protocol that requires additional bandwidth. The bandwidth requirements depend on the number of screens used and the resolution of each screen.

For each screen, consider the following:

- **Screen resolution:** Higher resolution screens require more bandwidth.
- **Frame rate:** Higher frame rates require more bandwidth.

Add up the bandwidth requirements for all screens to get the total Nice DCV PCoIP requirements.

### 3.5.4 Step 4: Consider Transport Stream Requirements

The type of transport stream used also affects the bandwidth requirements. Different video codecs have different bandwidth requirements. For example, H.264 is a commonly used video codec that provides good video quality with relatively low bandwidth requirements.

Consider the following:

- **Video codec:** Different codecs have different bandwidth requirements. Choose a codec that provides the desired video quality with the lowest possible bandwidth requirements.
- **Error correction:** Error correction techniques can improve the quality of the video stream but require additional bandwidth.

### 3.5.5 Step 5: Plan for Contingency

Finally, it's important to plan for contingency. This means allowing for additional bandwidth to account for unexpected increases in demand or temporary network issues. A common approach is to add an additional 20-30% to the estimated bandwidth requirements.

Following these steps, you can estimate the bandwidth requirements for live video and audio production. This helps ensure that you have sufficient bandwidth to deliver a high-quality live stream without interruption.

### 3.5.6 References

#### NDI Full Bandwidth

Resolution	Maximum Bandwidth	Maximum Bandwidth w/ Alpha	Proxy (no Alpha support)
1920 x 1080p60	105-132 Mbps	128-165 Mbps	640 x 360 - 30Mbit/s
3840 x 2160p60	158-249 Mbps	197-312 Mbps	3840 x 2160 - 30Mbit/s

### NDI HX, NDI HX H264 & HEVC e NDI HX3 H264 & H265

	NDI HX	NDI HX H264 & HEVC	NDI HX3 H264 & H265
<b>Resolution</b>	<b>Maximum Bandwidth</b>	<b>Maximum Bandwidth</b>	<b>Maximum Bandwidth Mbit/Sec</b>
1920 x 1080p60	9.6-15.9 Mbps	6.7-10.9	20-62
3840 x 2160p60	19.1-30 Mbps	13.2-21	70-110

### NDI Bridge

Estimate of NDI Bridge bandwidth using 1080p60 as the video format. Multiply single bandwidth value by number of video inputs to get overall throughput. NDI Bridge compression uses VBR encoding, actual bandwidth depends on video detail and motion complexity.

NDI Bridge Compression	H.264 bandwidth (single 1080p60)	H.264 total 8 channel replay	HEVC bandwidth (single 1080p60)	HEVC total 8 channel replay
Minimum	1.6 Mbits	12.8 Mbits	1.1 Mbits	8.8 Mbits
Low	4 Mbits	32 Mbits	2.8 Mbits	22.4 Mbits
Medium	8 Mbits	64 Mbits	5.5 Mbits	44 Mbits
High	16 Mbits	128 Mbits	11 Mbits	88 Mbits
Ultra	24 Mbits	192 Mbits	16.5 Mbits	132 Mbits

### Calculation Example

Component	Profile	Mbps	Streams	Total Mbps
<i>Upload - to the cloud</i>				
Video Input	1920*1080 60P NDI HX H.264	11	8	88

Component	Profile	Mbps	Streams	Total Mbps
				88
		<b>+contingency</b>	<b>20%</b>	<b>106</b>
<i>Download - from the cloud</i>				
PCoIP	1920*1080 60P NDI HX H.264	11	2	22
Multi-Viewer	1920*1080 60P NDI HX H.264	11	1	11
				33
		<b>+contingency</b>	<b>20%</b>	<b>40</b>

---

## 3.6 Detailed Setup Of Nice DCV For Your Live Production

- [The Production Session](#)
  - [NICE DCV](#)
  - [Connecting to TriCaster Now using NICE DCV](#)
  - [Monitors and Resolution Configuration](#)
  - [Multiple Monitors and Display Layout](#)
- [Troubleshooting](#)

### 3.6.1 The Production Session

#### NICE DCV

AWS NICE DCV is a cloud-based remote access solution that enables users to safely access and engage with graphical workloads in the cloud, guaranteeing a smooth and high-performance experience.

You install NICE DCV on the client-machine that accesses the cloud TriCaster Now production.

#### Client-Side Prerequisites

##### Supported Operating Systems

- Windows Server 2022
- Windows Server 2019
- Windows Server 2016
- Windows 11
- Windows 10.

#### User Rights

The user must have installation rights to run Nice DCV installer. This can be achieved by assigning local administrator rights to the user, or by explicitly granting the required privileges.

 **Note:** Prior to installation, it is essential to consult the IT customer department to obtain necessary privileges and ensure compliance with all rules and regulations.

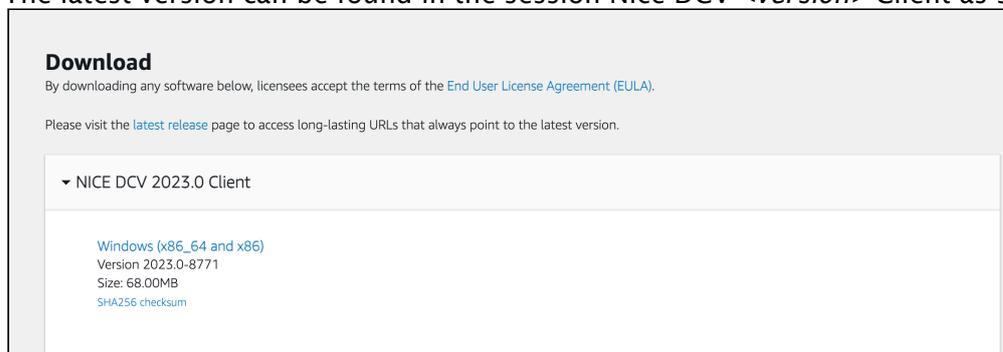
#### Ports

To ensure proper functionality, Nice DCV requires the opening of the following ports:

Source	Destination	Protocol	Port
<client network> example: 192.168.0.0/24	<Tricaster Now Public IP instance(s)>	TCP	8443
<client network> example: 192.168.0.0/24	<Tricaster Now Public IP instance (s)>	UDP	8443

## Installation

1. Find and download the latest version of Nice DCV client in <https://download.nice-dcv.com/>. The latest version can be found in the session Nice DCV <version> Client as shown below:



2. Run the installer that was downloaded.
3. On the **Welcome** screen, choose **Next**.
4. On the **End-User License Agreement** screen, read the license agreement. If you accept the terms, select the **I accept the terms in the License Agreement** check box. Choose **Next**.
5. On the **Destination Folder** screen, choose **Next** to keep the default installation folder. To install the client in a different folder, change the destination path, and then choose **Next**.
6. On the **Drivers Selection** screen, select **USB device remotization** . Choose **Will be installed on local hard drive** and then choose **Next**.
7. On the **Ready to install** screen, choose **Install**.

## Connecting to TriCaster Now using NICE DCV

The system will automatically launch the NICE DCV PCoIP application.

- Open the NICE DCV window and click **Trust and Connect** if prompted.

## Connection protocol

By default, the NICE DCV client uses the QUIC protocol (based on UDP) for data transport when available.

**⚠ Note:** *QUIC is only supported for direct client-server communication where **there are no intermediate proxies, gateways or load balancers.***

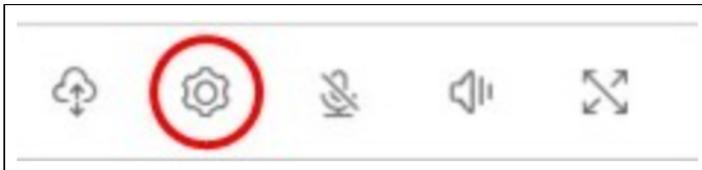
- QUIC (Quick UDP Internet Connection) is a encrypted transport layer network protocol that was designed to make HTTP traffic more secure, efficient, and faster.

- QUIC allows Nice DCV to provide a better performance and response when accessing TriCaster Now instance(s) using all the best qualities of TCP connections and TLS encryption.

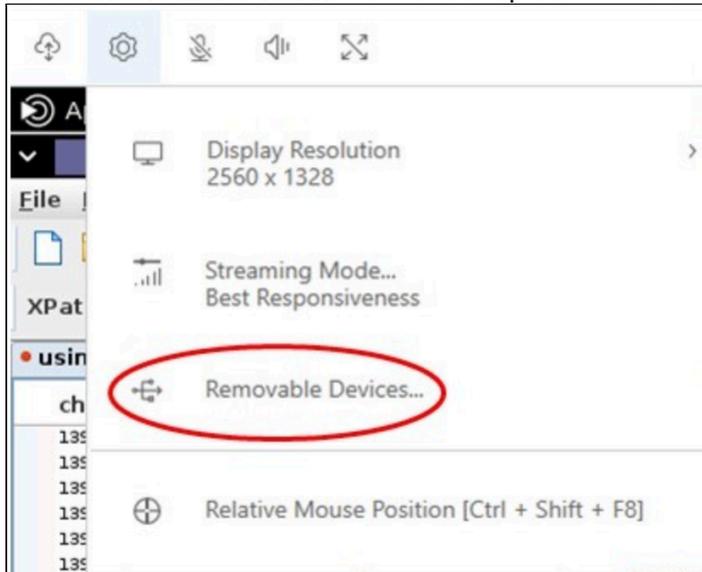
If QUIC is unavailable, the client uses the WebSocket protocol (based on TCP). This option is always available and no configuration is needed client-side.

## To enable a control surface in NICE DCV

1. Make sure that the control surface is connected in the USB port of your computer.
2. Launch Viz Now LaunchPad.
3. Open a TriCaster session.
4. After TriCaster session is opened, choose the **Settings** icon located in the upper left of the window in NICE DCV Client.



5. Select **Removable Devices** from the drop-down menu.



6. Activate the slider next to the USB device in the list



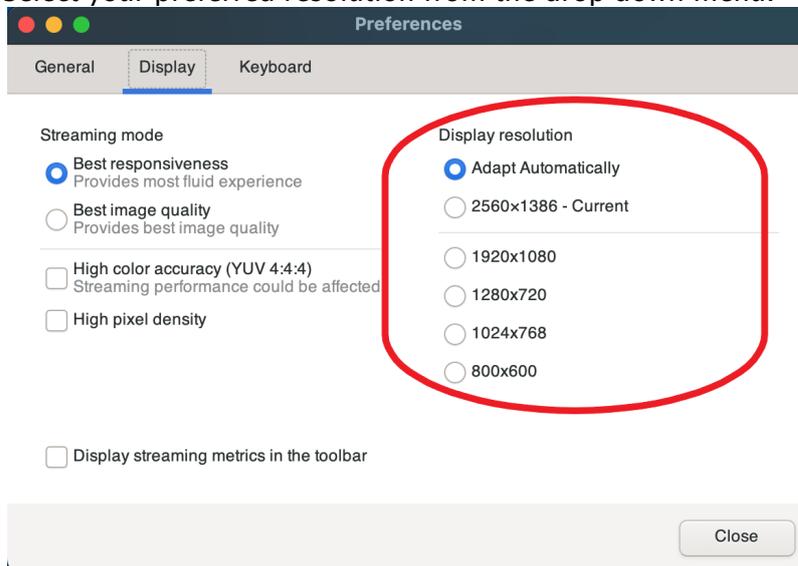
## Monitors and Resolution Configuration

**Note:** When changing monitor configuration exit from TriCaster Now application back to windows desktop.

### To change monitor resolution

NICE DCV automatically adapts the display resolution of the TriCaster Now instance to match the current size of the client. When the client window is resized, NICE DCV requests the TriCaster Now instance to change its display resolution to a size that fits the client window.

1. Click on the **Settings** icon from the menu at the top.
2. Select **Display Resolution** from the menu.
3. Select your preferred resolution from the drop-down menu.



As shown above, a user can also choose a fixed resolution on the server, which does not change when the client window is resized.

4. Select the **Display resolution** menu and specify the desired resolution.  
For re-enabling automatic resize, you can select *Adapt automatically*.

## Multiple Monitors and Display Layout

With NICE DCV, you can extend full screen resolution across a single monitor, a group of chosen monitors, or all of the available monitors.

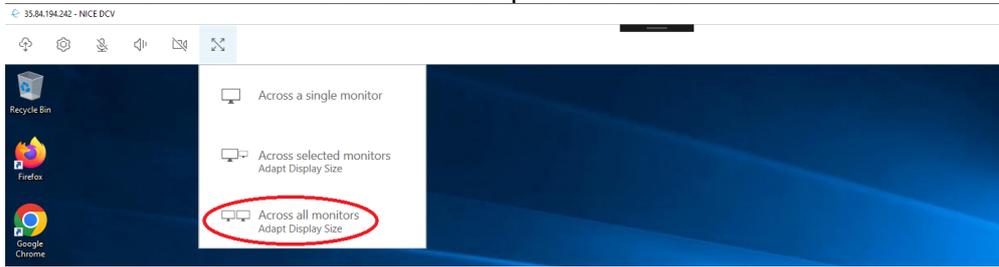
You can also customize the display layout of a NICE DCV session.

The default setting for clients connecting to the session is specified in the display layout. You can explicitly override the defaults in your NICE DCV client or employ the default operating system display settings.

### To extend full-screen across all monitors

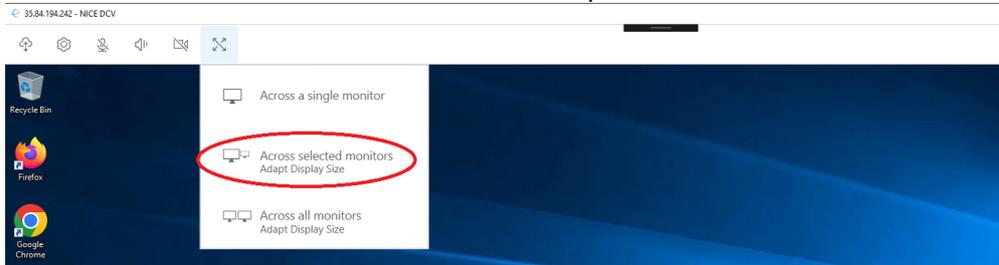
1. Go to the toolbar at the top of the window

2. Choose the **Full Screen** icon
3. Select **Across all monitors** from the drop-down menu



To extend full-screen across selected monitors

1. Go to the top menu
2. Select the **Full Screen** icon
3. Select **Across selected monitors** from the drop down menu



4. Select which monitors you want Nice DCV to be displayed full screen.

Full Screen Across Selected Monitors ✕

**Select the monitors you wish to make full screen.**

Please note, selected monitors must be configured adjacent to each other. For example, an unused monitor cannot be configured between two selected monitors.

A diagram showing four monitors arranged in a row. Monitor 1 is highlighted in blue and labeled 'Internal Display (1920x1080)'. Monitors 2, 3, and 4 are grey. Monitor 2 is the largest, followed by 3, and then 4.

Apply

5. Click **Apply**.

### 3.6.2 Troubleshooting

- [To change shortcuts](#)
- [To input text into an edit area](#)
- [To force monitors to display all elements on the interface](#)
- [To enable NICE DCV to store log files on a Windows client](#)

#### Working around the ALT + number pad keyboard issue

There are two potential scenarios to address:

##### Scenario 1: Controlling the application

If you are experiencing issues with the application not recognizing the **ALT + Numlock** number command, you can change the shortcuts to **CTRL + NumPad**.

##### To change shortcuts

1. Launch the application through AWS NICE DCV using PCoIP.
2. Navigate to the application's **Settings** or **Preferences** menu.
3. Look for the *keyboard* or *shortcut configuration* options.
4. Locate the command or function that you want to use with the **ALT + Numlock** number combination.
5. Edit the shortcut and change it to **CTRL + NumPad**. Ensure that the new shortcut is not conflicting with any other existing shortcuts.
6. Save and Close the Settings/Preferences menu.

You should now be able to control the application using **CTRL + NumPad** instead of **ALT + Numlock** number.

##### Scenario 2: Inputting Text

##### To input text into an edit area

1. Ensure that NumPad lock is enabled on your keyboard. This allows symbol injection to work correctly.
2. Focus on the application's input text area where you want to enter the text.
3. Press **ALT** to place focus on the menu of the Windows application.
4. Once the focus is active, input the symbol you want to inject using the **ALT + Unicode** combination.  
For example, to input the symbol € (Euro), press and hold **ALT** and then enter the Unicode value for Euro, **ALT + 0128**, using the number pad.
5. The symbol should now be correctly injected into the text area of the remote application.

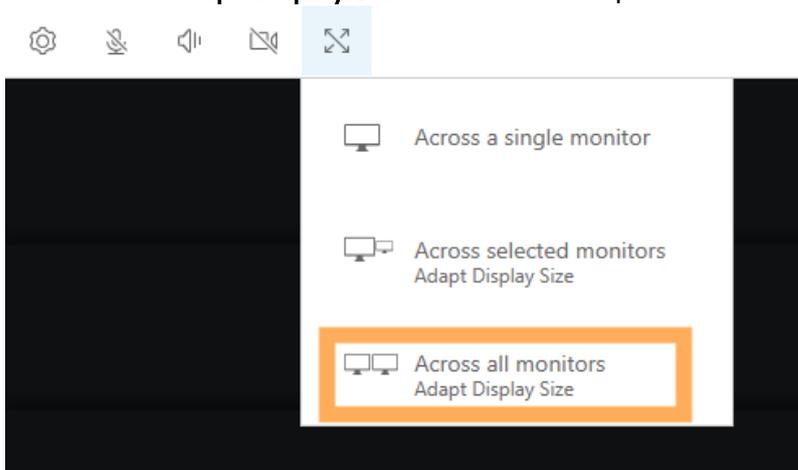
Remember to adjust the application shortcuts or use the **ALT + Unicode** combination based on the specific scenario you are encountering.

## Issues with Monitors

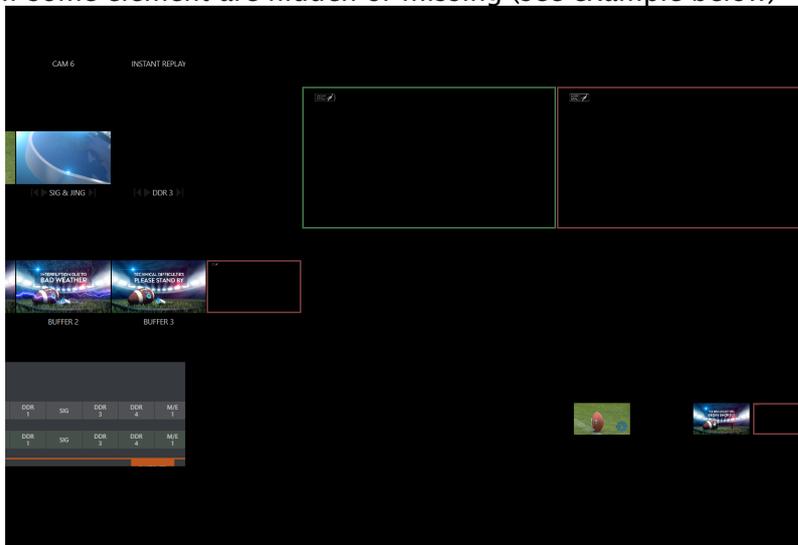
### To force monitors to display all elements on the interface

When connecting with NICE DCV, you may encounter display issues where certain elements of the application UI are not shown correctly or are hidden.

1. Launch the app, and connect through NICE DCV.
2. At initial connection, if the display layout it is configured to a single monitor, select **Across all monitors Adapt Display Size** to set the multiple monitors.



3. Verify display elements.
  - a. Check if all elements of the UI are now displayed correctly.
  - b. Ensure that no elements are hidden or missing.
4. If some element are hidden or missing (see example below)



Close the application and return to the Windows Desktop.



5. Restart the TriCaster.
6. Back on the Windows desktop, again try selecting **Across all monitors Adapt Display Size**.



 Across a single monitor

 Across selected monitors  
Adapt Display Size

 Across all monitors  
Adapt Display Size

7. Relaunch the TriCaster Now application.  
These steps help to refresh the display and resolves any persistent display issues.

 **Note:** If the issue persists after attempting these steps, please contact our Support team for further assistance.

## NICE DCV Logs

Use the NICE DCV client log files to identify and troubleshoot problems with your NICE DCV client.

### File location

Logs are not enabled by default on Windows clients. Once enabled, the log files are stored in the following location on your NICE DCV client machine:

Windows client > *C:\ProgramData\client.log*

## To enable NICE DCV to store log files on a Windows client

1. Open a command prompt window, clicking in **Run** and typing `cmd`.

2. Navigate to the folder where the *dcvviewer.exe* file is located.  
(By default `cd\ C:\Program Files (x86)\NICE\DCV\Client\bin\`)
3. Launch NICE DCV client using the command line interface:

```
dcvviewer --log-level info --log-file-name C:/ProgramData/client.log
```

---

## 3.7 TriCaster Now Live Session: Disk Setup And Usage

When setting up your TriCaster Now live session, it's essential to understand how to efficiently use the available disk storage to ensure smooth live productions.

TriCaster Now systems come equipped with different drives for various purposes. Here's a guide on how to utilize the disks effectively:

### 3.7.1 Disk Overview

#### C:\ Drive (Operating System Drive)

- **Usage:** The C:\ drive is reserved for the operating system and system-related files.
- **Recommendation:** Do not use this drive to store any live media assets, as it will be provisioned brand new upon system reversion.

#### D:\ Drive (Session Storage, Online Clips)

- **Usage:** The D:\ drive is designed for storing assets used during your live session, such as graphics, videos, and clips.
- **Recommendation:** Use the D drive to store assets you need for your live production. It provides high-performance storage to ensure quick access to media during your session.

#### E:\ Drive (Live Recording)

- **Usage:** The E:\ drive is recommended for storing live recordings of your sessions.
- **Recommendation:** Store live recordings on the E:\ drive to ensure reliable and high-performance storage for your valuable content.

#### Z:\ Drive (Temporary Disk)

- **Usage:** The Z:\ drive is a temporary disk meant for short-term data storage.
- **Recommendation:** While you can use the Z:\ drive for media recording and clipping, be aware that its content won't be included in the archiving process, and data may be lost during TriCaster Now state transitions or in case of system failure. Use it for temporary storage only when necessary.

### 3.7.2 Best Practices for Disk Usage

1. **Organize Your Assets:** Keep your live media assets well-organized. Use the D:\ drive for assets needed during your live session and clips and the E:\ drive for live recordings. This ensures efficient access and management of your content.

2. **Backup Important Data:** If you decide to use the Z:\ drive for temporary storage, consider regularly backing up critical data to a more permanent location (for example, D:\ or E:\ drive) to avoid potential data loss.
3. **Plan for State Transitions:** Be mindful of how you use the Z:\ drive, as its content may not persist during TriCaster Now state transitions. If data persistence is essential, consider using the D:\ or E:\ drive instead.
4. **Regularly Check Disk Space:** Monitor the available disk space on the D:\, E:\, and Z:\ drives to ensure you have enough storage for your live sessions. Clear unnecessary files to free up space when needed.

 **Note:** If you did not follow the instructions on this page, the system may balance recording between disks, including the temporary Z:\ drive, and content may be lost.

## 3.8 Control Surfaces For TriCaster Now

For some setups, a Control Surface is accessed with an *Ethernet connection*, rather than traditional USB hardware.

This scenario requires the *Viz Remote Control Surface Utility* application, for pairing a control surface with an ethernet connection running on-premise, to a TriCaster Now instance.

### 3.8.1 Working with Viz Remote Surfaces

- [TriCaster Now Control Panel Compatibility](#)
- [Viz Remote Control Surface Utility](#)

#### TriCaster Now Control Panel Compatibility

The Flex Control Panel is the recommended solution for TriCaster Now systems. Flex uses NDI Bridge for remote connection.

All other panels require the use of the *Viz Remote Control Surface Utility* for connection.

	Media Type	Remote Connection	TriCaster Now 8 by 2 System	TriCaster Now 16 by 4 System
Flex Control Panel	Ethernet	NDI® Bridge	Yes	Yes
2-Stripe Control Panel	Ethernet	Viz Remote Surface Configuration		Yes
4-Stripe Control Panel	Ethernet	Viz Remote Surface Configuration		Yes
Mini Control Panel	USB	Viz Remote Surface Configuration	Yes	Yes
TC1SP Control Panel	USB	Viz Remote Surface Configuration	Yes	Yes

#### Viz Remote Control Surface Utility

Follow the procedures in this section to download, install and set up the app.

#### To install the Viz Remote Control Surface Utility app

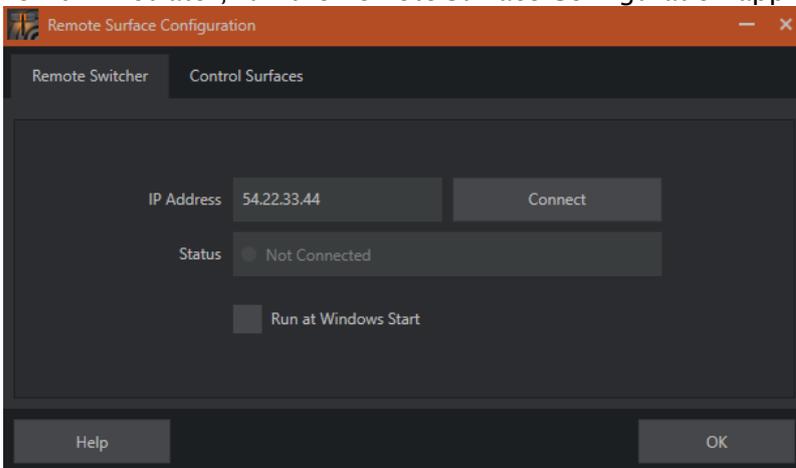
1. Navigate to the Vizrt [TriCaster® Family Product and maintenance updates](#) page.
2. Scroll down to the panel **TriCaster® Now Resources**

3. Click on the text *Viz Remote Control Surface Utility Application* to download the installation file *Viz Remote Surface Configuration.exe*.
4. In the on-premises client, run the downloaded installer, using all default installation settings.

**⚠ Note:** The on-premises client **must** be in the same subnet as the Control Surface Panel connection.

### To connect the Control Surface Panel to TriCaster Now

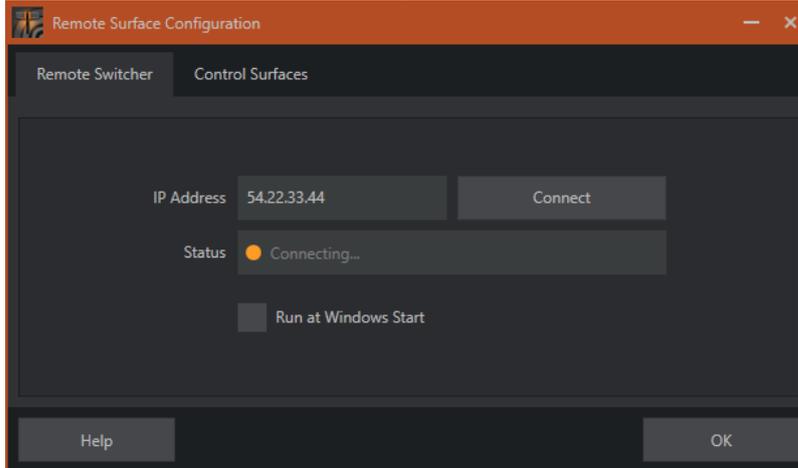
1. Open a session in TriCaster.
2. Close the Remote Surface Configuration app.
3. Close the NICE DCV client.
4. Power up the Control Surface Panel.
5. As Administrator, run the Remote Surface Configuration app.



6. Wait till *ID:1* appears in the Control Surface Panel.
7. In the Remote Surface Configuration setup panel, select the **Control Surfaces** tab and verify that the device is detected:

ID	Surface: (Channel)	Memo	Local Channel
1	Dual Row Panel (In Use)		1
<input checked="" type="checkbox"/> 2	Quad Row Panel: 1		1

8. Select the **Remote Switcher** tab, enter the TriCaster Public IP and click **Connect**.



## 3.9 Stream Deck As A TriCaster Now Control Surface

StreamDeck is a control panel from Elgato, with programmable software. It enables assignment and triggering of operations using programmable buttons. This can simplify multiple operations for various applications and production tasks.

- [Prerequisites \(Client-Side\)](#)
- [Installation and Configuration](#)
- [NewTek Plug-in Features](#)
- [Security](#)

### 3.9.1 Working with Stream Deck

#### Prerequisites (Client-Side)

#### Supported Operating Systems

- Windows 11
- Windows 10
- MacOS 10.15.x or later.

#### Ports

Live Panel requires that the following ports be opened:

Source	Destination	Protocol	Port
<client network> For example: <i>192.168.0.0/24</i>	<Tricaster Now Instance's Public IP>	TCP	443

#### Installation and Configuration

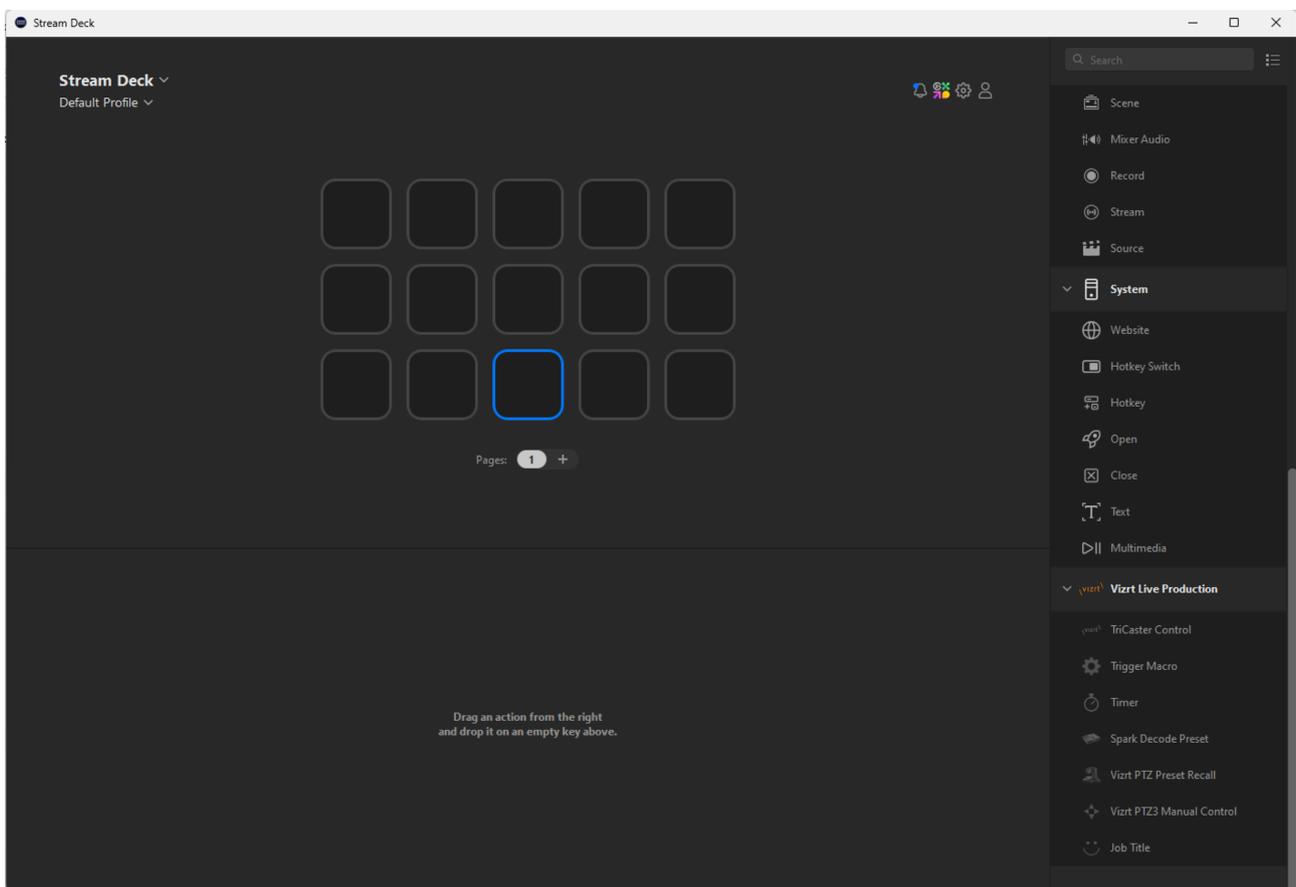
#### To Install and Prepare the Software

1. Download and install Stream Deck Software from <https://www.elgato.com/us/en/s/downloads>. Stream Deck provides a plug-in that allows integration with TriCaster Now through Macros.
2. Install the plug-in by double-clicking the **Vizrt Live Production** plug-in icon (*com.vizrtliveproduction*), provided with the TriCaster Now Onboarding instructions.

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
com.vizrt.liveproduction	Stream Deck Plugin	527 KB	No	635 KB	18%	10/19/2023 12:07 PM

The plug-in is added into your Stream Deck software installation.

3. A *Vizrt Live Production* category appears in the right side panel. Expanding this category displays the plug-in's supported features.



### NewTek Plug-in Features

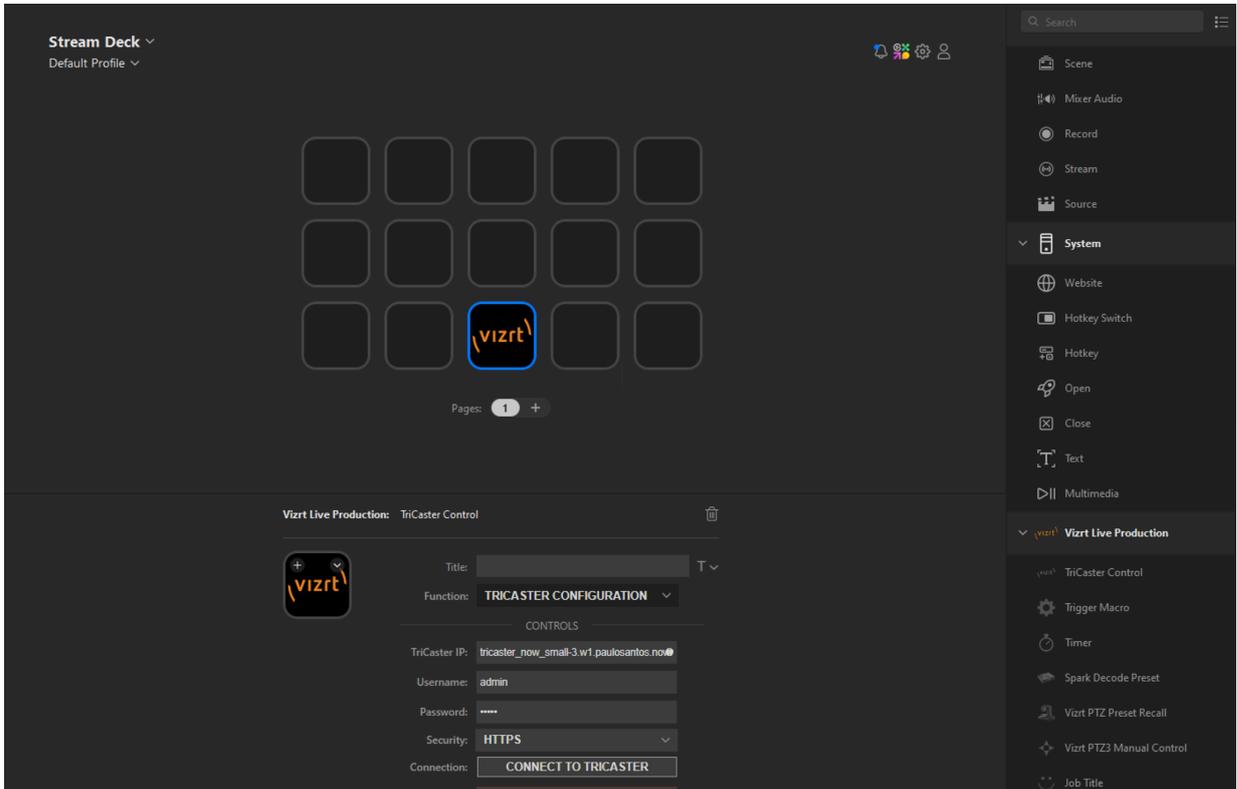
- [TriCaster Control](#)
- [Notes](#)
- [Trigger Macro](#)

## TriCaster Control

TriCaster Control enables control of several functions in a TriCaster system.

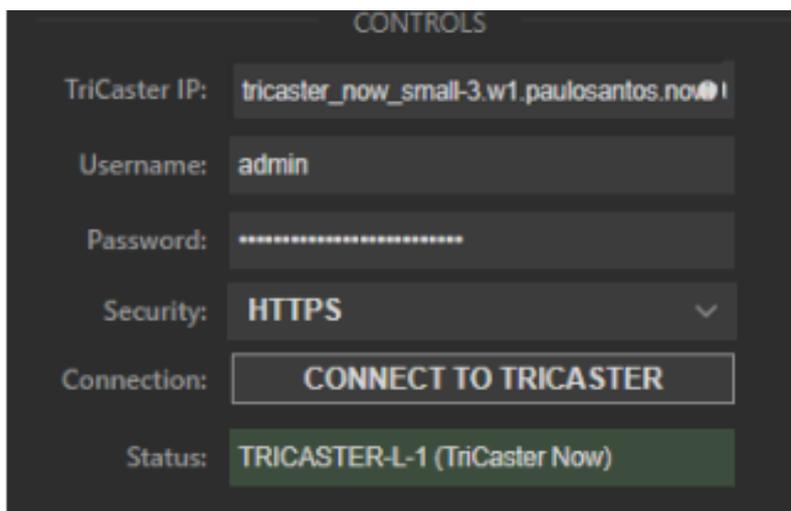
Use this feature to first configure the plug-in for communicating with the TriCaster.

1. Drag and drop the TriCaster Control feature button on any Stream Deck button.



2. From the **Function** menu, select *TriCaster Configuration*.

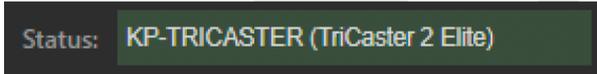
3. Fill in the required fields:



- a. Enter the FQDN (Fully Qualified Domain Name) of the TriCaster system.
- b. Enter the LivePanel username and password

4. Click **CONNECT TO TRICASTER**.

5. Ensure the TriCaster is currently in a session. If the connection is successful, the name and model of the TriCaster system will appear in the **Status** field.



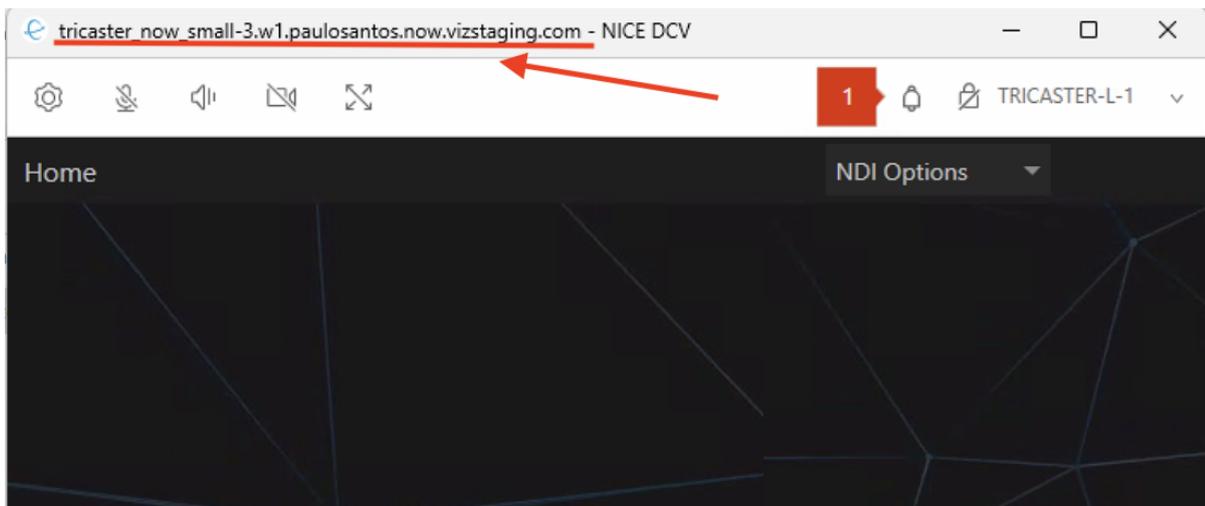
6. If the connection *fails*, verify the IP and password information.



7. Once you have configured the connection, you can change the button to any of the four main functions. All TriCaster Control buttons on the Stream Deck will automatically be configured to communicate with the TriCaster system.

## Notes

You can verify the FQDN of your TriCaster system in the top bar of NiceDCV client, as shown below:

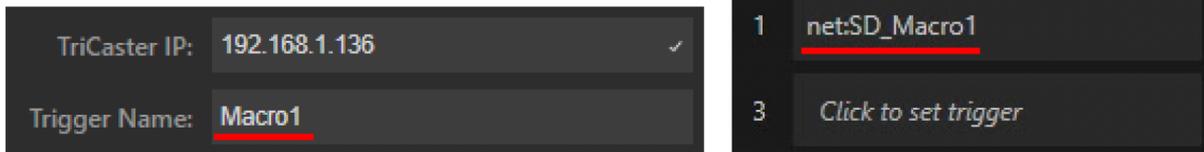


## Trigger Macro

You can trigger macros on a TriCaster system.

Each macro can be configured with a unique device, allowing a single Stream Deck to trigger macros on multiple TriCaster and 3PLAY systems available on the network.

Trigger names appear with an *SD\_* prefix, to designate that the macro is triggered from a Stream Deck button.



## Security

- Live Panel uses the same credentials as Live Panel. Refer to TriCaster User Guide, section **Live Panel > Security**.

## 3.10 TriCaster Now Live Panel

LivePanel allows users to create custom control panels for TriCaster, accessible through a web browser.

LivePanel also offers various production-ready tools for remote video mixing, media playback, audio mixing, and macro automation.

The launchpad will provide a simple way to log into the LivePanel using the pre-configured password for the Admin user.

- [Prerequisites: Network Ports](#)
- [Opening Live Panel from Viz Now LaunchPad](#)
- [Live Panel Credentials](#)

### 3.10.1 Working with LivePanel

#### Prerequisites: Network Ports

Live Panel requires the opening of the following ports:

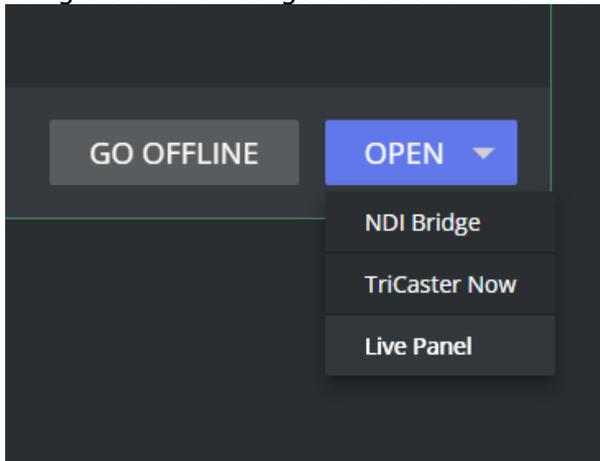
Source	Destination	Protocol	Port
<client network> example: 192.168.0.0/24	<Tricaster Now Public IP instance(s) >	TCP	443

#### Opening Live Panel from Viz Now LaunchPad

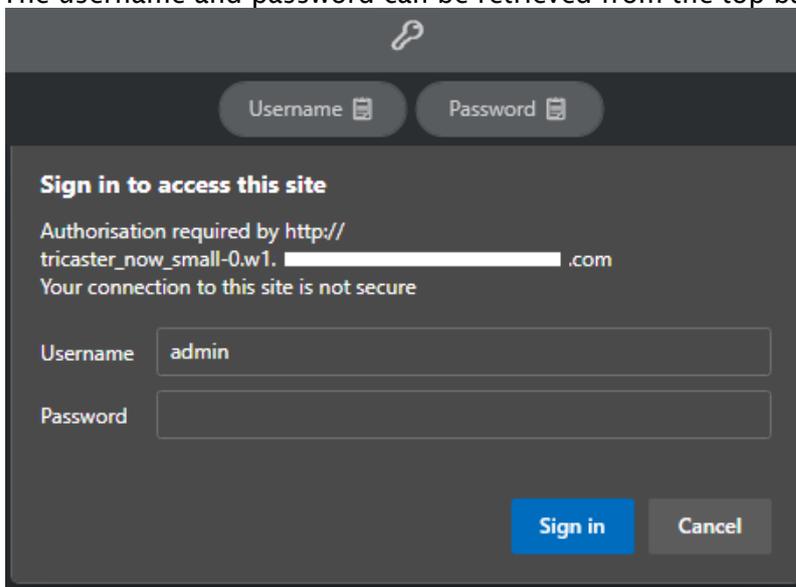
#### To open LivePanel

1.  Make sure the TriCaster application has started and that you have a production session in progress (that you have created a new session, or opened an existing one) before attempting to open the LivePanel from the LaunchPad.

- Using the LaunchPad go to the OPEN menu and select **Live Panel**.

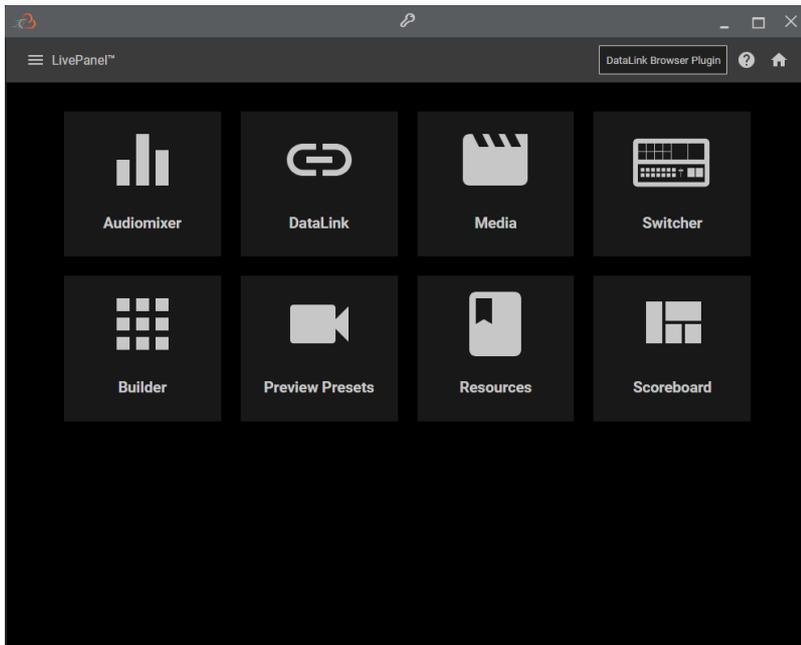


- A new window appears hosting the LivePanel. The username and password can be retrieved from the top bar menu.



- Click each button to copy its value to the internal clipboard.
- Right click on the correct field and select **Paste**.
- Click **Sign in** when complete.

The LivePanel is now available.



### Live Panel Credentials

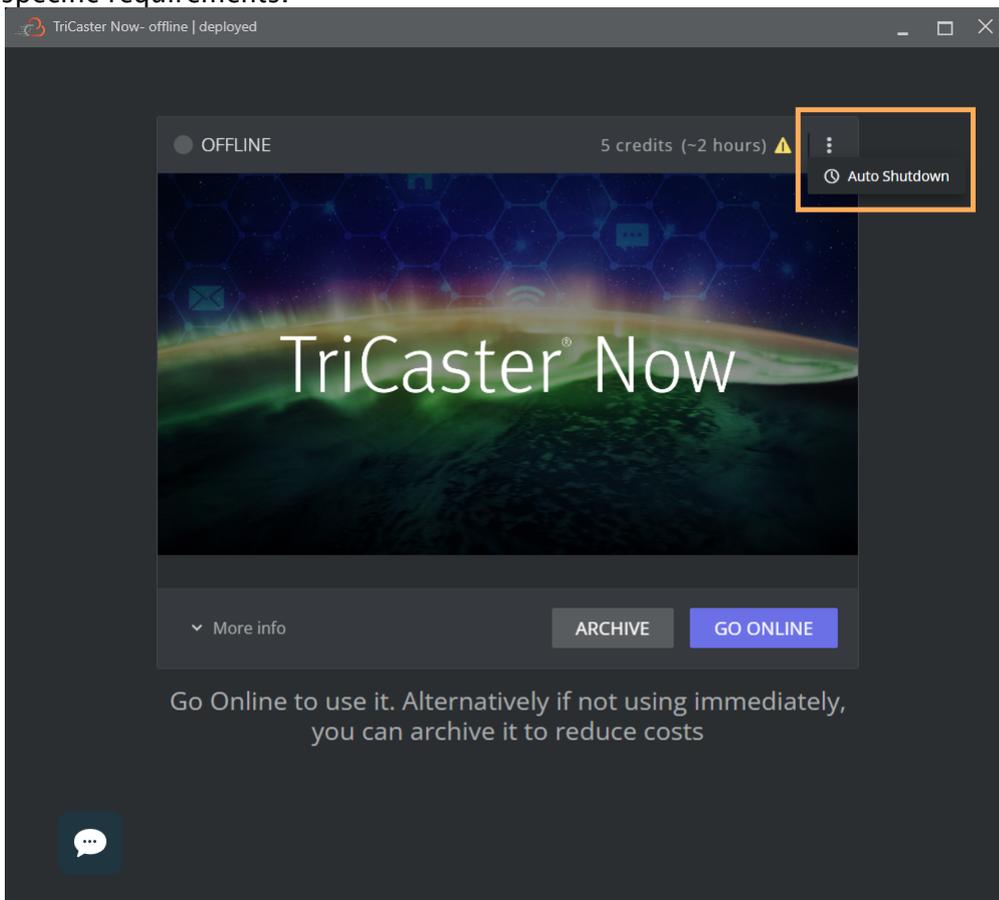
⚠ Do not update Live Panel credentials. These values are managed automatically by the system.

## 3.11 Auto Shutdown

The service includes an automatic shutdown feature. By default, all new instances have this feature enabled.

- Auto shutdown prevents new users from inadvertently incurring costs and depleting their credits with their instance unintentionally remaining online.

The feature is accessed from the App Launcher **Settings**, users can customize it according to their specific requirements.

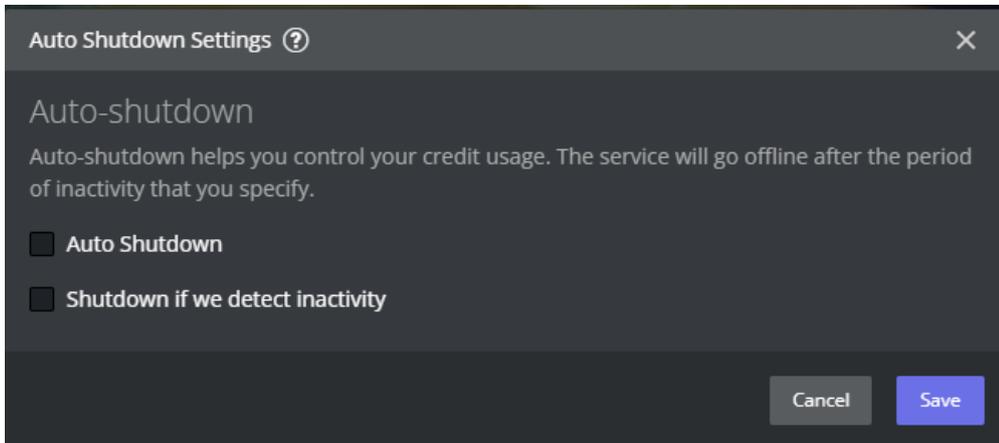


The **Settings** panel is reached by clicking the dotted menu. The various setting combinations are described below.

- [Auto Shutdown not Enabled](#)
- [Shutdown After is Enabled, Detect Inactivity is Disabled](#)
- [Shutdown After is Enabled, Detect Inactivity is Enabled \(default\)](#)
- [Shutdown After is Disabled, Detect Inactivity is Enabled](#)

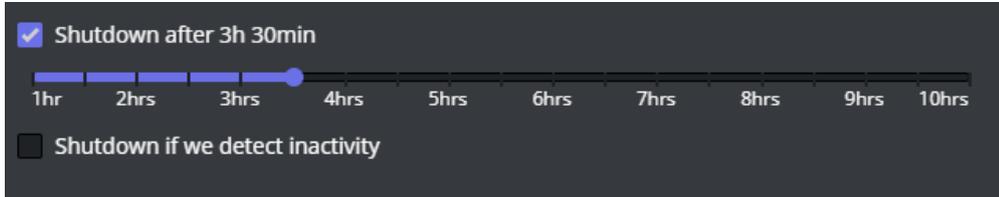
### 3.11.1 Auto Shutdown Options

#### Auto Shutdown not Enabled



⚠ If all options are disabled the service will *not* shut down by itself.

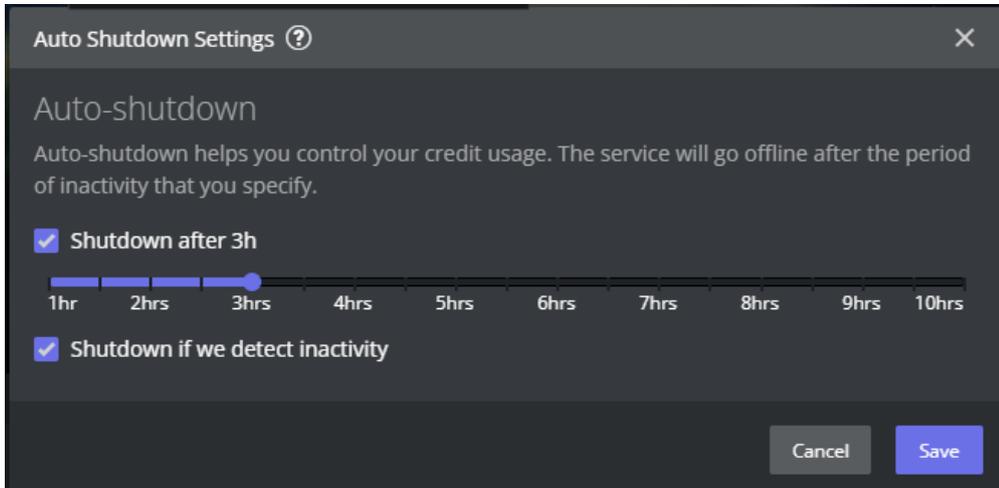
#### Shutdown After is Enabled, Detect Inactivity is Disabled



- After a specified duration since the service came online, the automatic shutdown process begins.
- The user receives an initial notification 30 minutes before this time.
- If no action is taken within this 30 minutes, the system proceeds with the shutdown, unless the user intervenes by manually shutting it down or postponing the scheduled shutdown.

This ensures efficient resource management and cost-effectiveness for users.

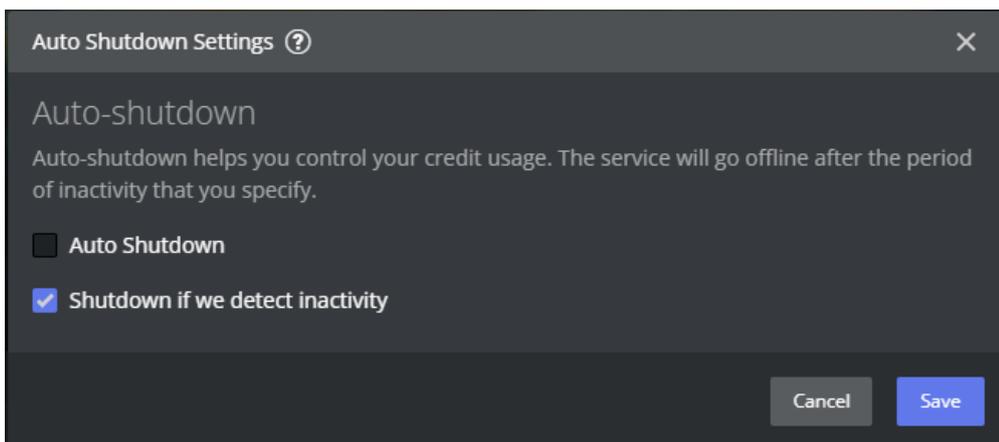
### Shutdown After is Enabled, Detect Inactivity is Enabled (default)



- The user receives an initial notification 30 minutes before the select delay.
- If inactivity is registered within 30 minutes after this time, the system proceeds with the shutdown.

**⚠ Note:** The automatic shutdown process is triggered by analyzing the egress traffic from the service. While the user has an active NICE DCV session or an outgoing video stream, the automatic shutdown will *not* be activated.

### Shutdown After is Disabled, Detect Inactivity is Enabled



- After 15 minutes, Viz Now starts detecting inactivity,
- If inactivity is registered within 30 minutes after this time, the system proceeds with shutdown.

---

## 4 After Your Production

Follow these guidelines for a clean and effective shutdown of your Viz Now hosted live production.

- [Close the TriCaster session](#)
  - [Shut down the TriCaster Now Windows Machine](#)
  - [Force Offline Mode](#)
  - [Getting Back Online](#)
  - [Archiving Your Application](#)
  - [Restoring Your Application](#)
- 

### 4.1 Go Offline

To End A Production, Always Follow This Workflow:

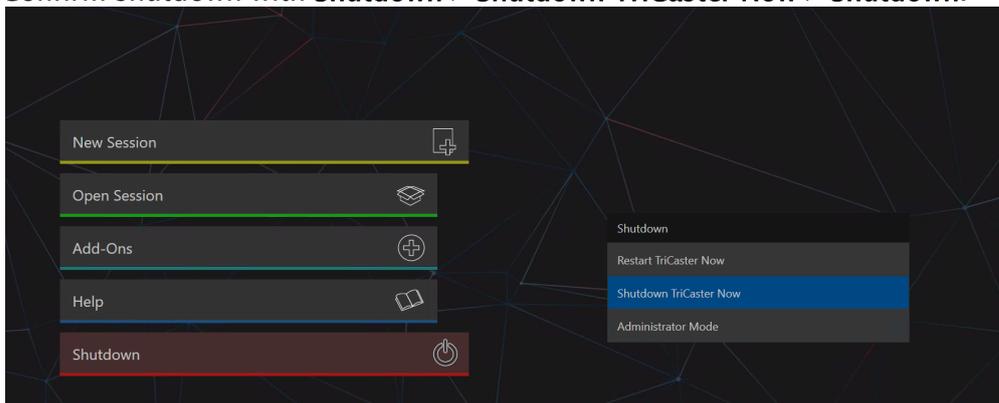
1. [After Your Production.](#)
2. [Shutdown the TriCaster Now Windows Machine.](#)

#### 4.1.1 Close the TriCaster session

- From the TriCaster menu bar select **File > Exit > Exit**.

#### 4.1.2 Shut down the TriCaster Now Windows Machine

1. Open the TriCaster Admin menu.
2. Confirm shutdown with **Shutdown > Shutdown TriCaster Now > Shutdown**.



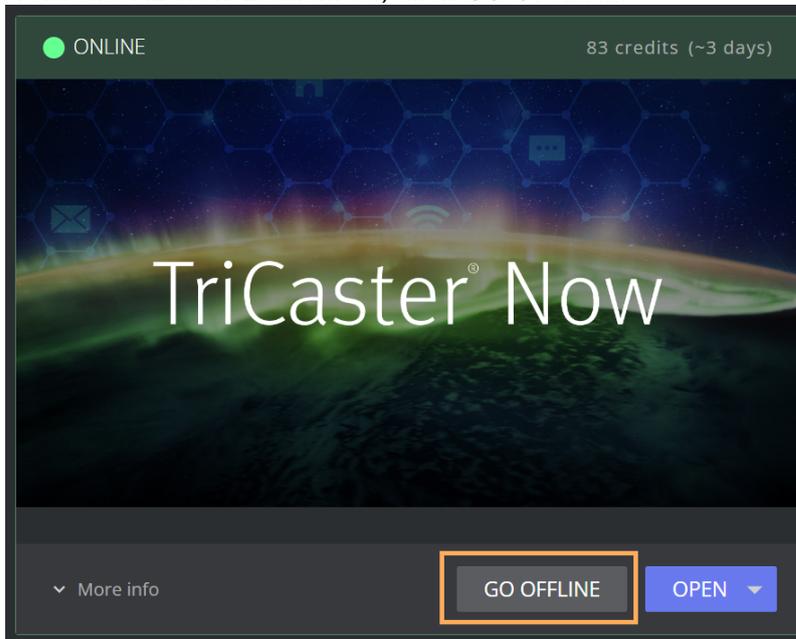
3. Wait until the TriCaster goes into *offline* mode. This might take a few minutes.

**⚠ Note:** If you decide to shut down with **GO OFFLINE**, all data is automatically backed up and managed for you. However, a nominal cost is still being incurred to cover the storage until you choose to [Archive](#) the data.

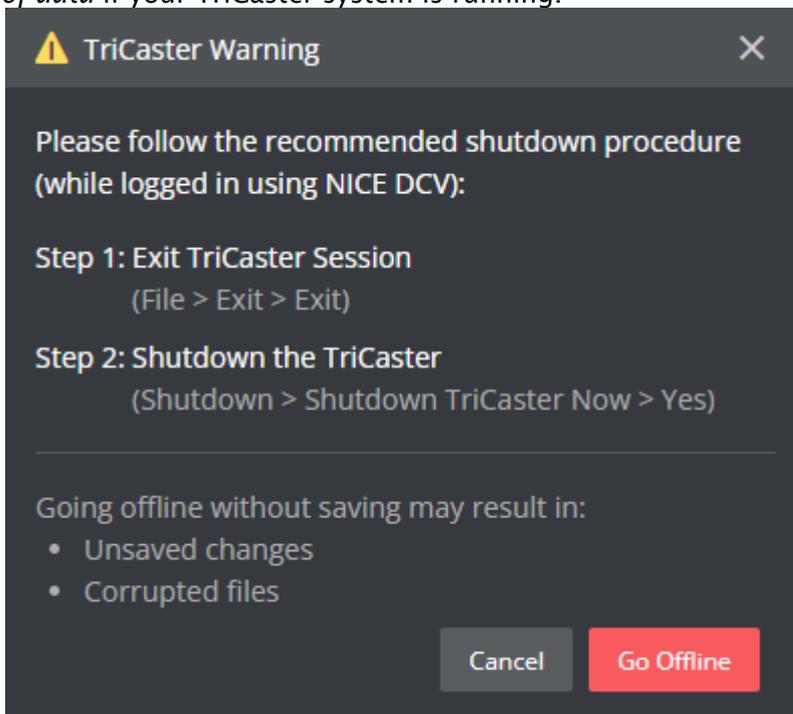
### 4.1.3 Force Offline Mode

To optimize costs, it is advisable to switch your Tricaster Now to *Offline* mode whenever it is not in use.

1. From the Viz Now LaunchPad, click **GO OFFLINE**.



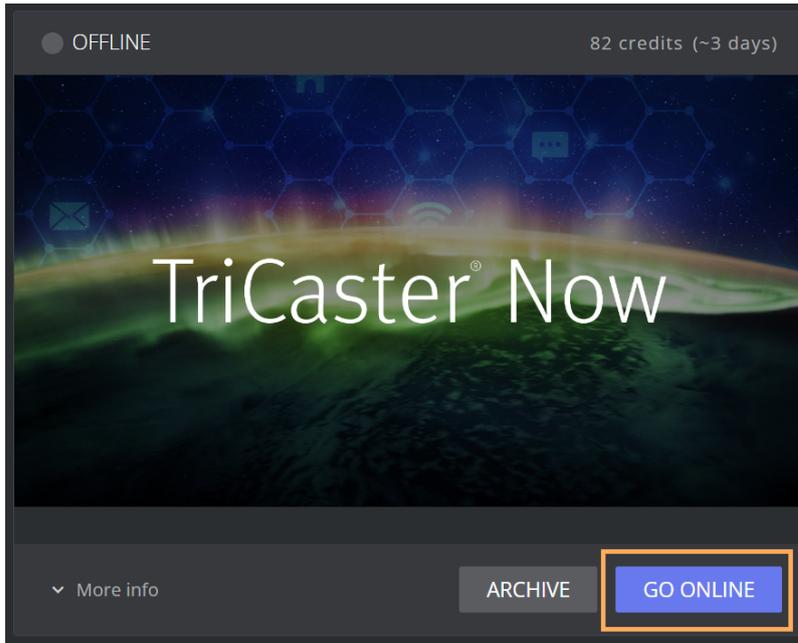
2. A popup will give a warning that you should shutdown the TriCaster from the remote desktop as shown below.  
You may still force a shutdown by clicking **Go Offline** but be aware that this could *cause loss of data* if your TriCaster system is running.



In this situation, return to the TriCaster and shut down as explain in the [Shut down the TriCaster Now Windows Machine](#) section above.

#### 4.1.4 Getting Back Online

- Bringing your application back online is a quick process, by clicking **GO ONLINE**. This typically takes less than a minute for the application to be ready for use again from its offline state.

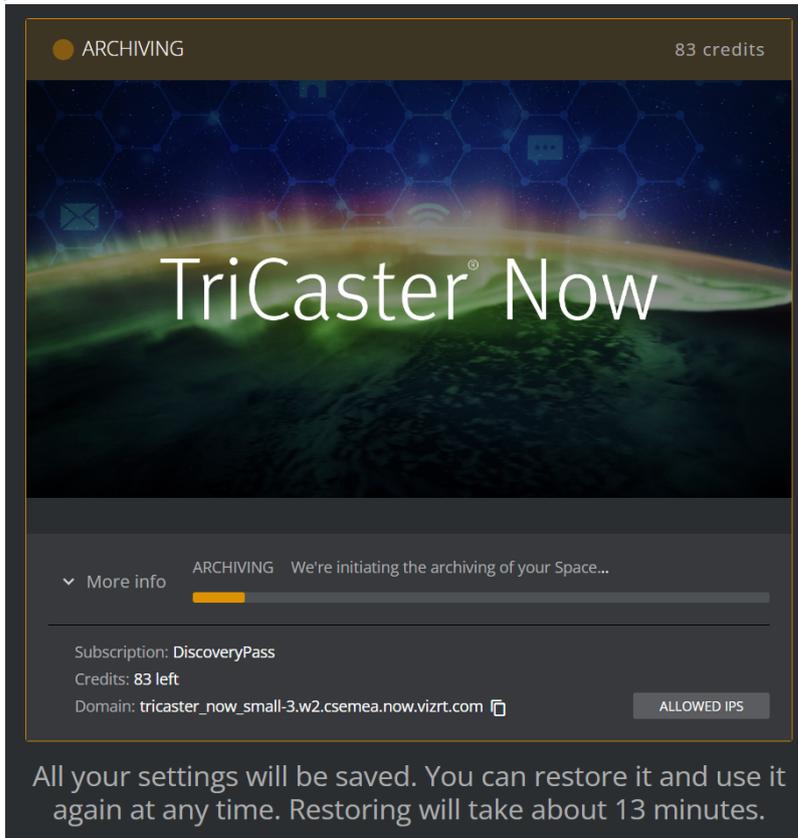


#### 4.1.5 Archiving Your Application

**⚠ Note:** If you decide to shut down with **GO OFFLINE**, all data is automatically backed up and managed for you. However, a nominal cost is still being incurred to cover the storage until you choose to *Archive* the data, as explained in this section.

- If you anticipate not using your application for an prolonged period, it is recommended to *Archive* it. This process typically takes up to 15 minutes, depending on the data size that needs to be archived. All sessions and stored data are securely backed up during this

process.



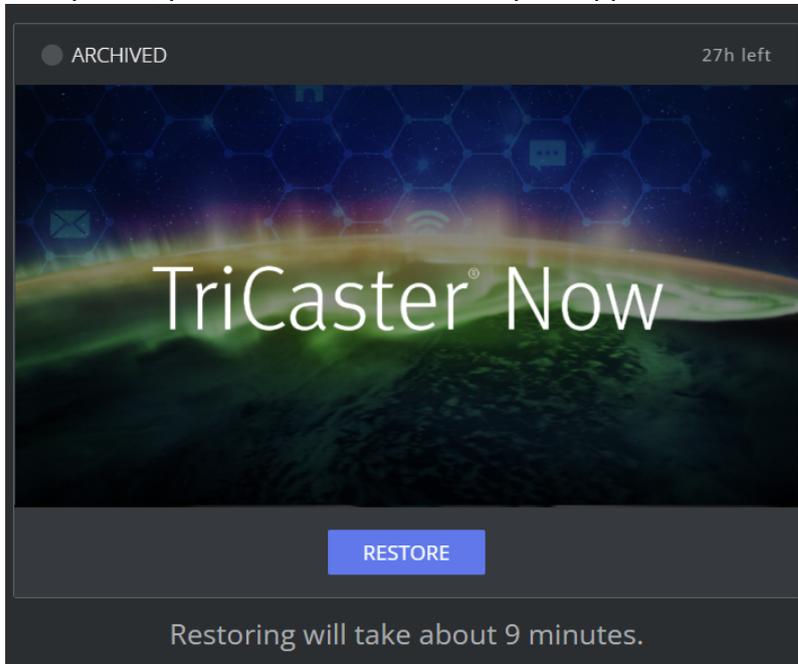
The screenshot shows a dark-themed interface for archiving a TriCaster Now space. At the top left, a yellow circle indicates the 'ARCHIVING' status, and '83 credits' is shown at the top right. The main area features a background image of a planet's horizon with the text 'TriCaster® Now' overlaid. Below this, a progress bar is partially filled with yellow, and the text 'ARCHIVING We're initiating the archiving of your Space...' is displayed. A 'More info' dropdown is visible. At the bottom, the subscription is listed as 'DiscoveryPass', with 'Credits: 83 left' and the domain 'tricaster\_now\_small-3.w2.csemea.now.vizrt.com'. An 'ALLOWED IPS' button is also present. A final message at the bottom states: 'All your settings will be saved. You can restore it and use it again at any time. Restoring will take about 13 minutes.'

## Archived Status

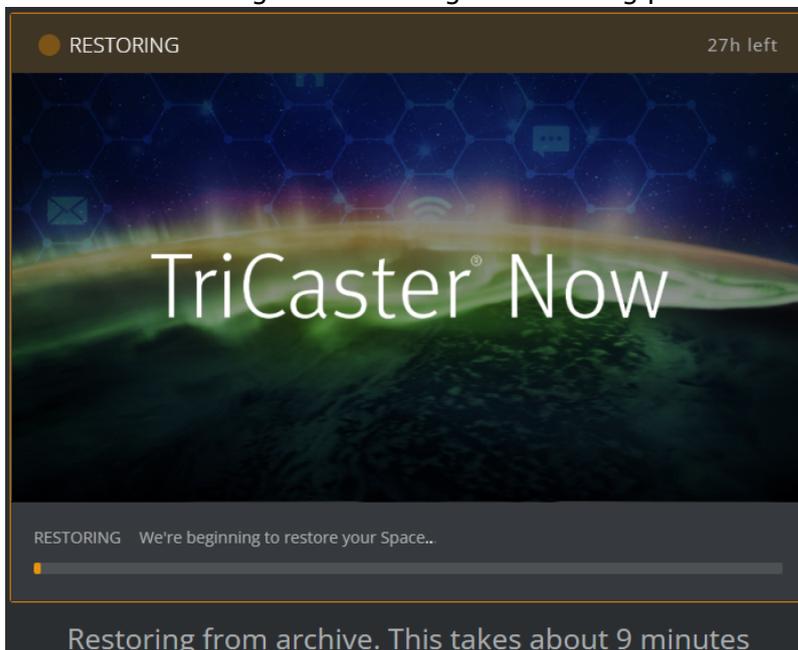
Once your application has been successfully archived, there are no additional costs associated with your subscription.

### 4.1.6 Restoring Your Application

- At any time, you can choose to restore your application to its previous state.



- The restoration process also includes any updates to the latest version of the application, as well as all the data gathered during the archiving period.



- The restoring process may take up to 15 minutes, depending on the size of the archived data. After the restoration is complete, your application is again fully functional and ready for use.

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## 5 Support

- [Frequently Asked Questions](#)

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## 5.1 Frequently Asked Questions

If you have any additional questions not covered in this FAQ, please feel free to reach out to our Support team for further assistance.

- [Services and Products Updates](#)
- [Subscription Details](#)
- [Credit Economics](#)
- [Bandwidth Requirements for Live Video Production](#)

### 5.1.1 Services and Products Updates

We strive to provide you with the latest features and improvements of our applications, to maximize your user experience.

We continually update our services and products (the 'Continuous Delivery' approach), ensuring you always have access to the most up-to-date versions.

#### *Q: How are updates delivered?*

A: Updates are delivered automatically, allowing Vizrt to continuously provide improved versions and features. Updates are *never* applied to a deployed product that is actively running a live production session. We understand the critical nature of live production workflows and the need for stability during these sessions.

Any updates are typically applied when a product is stopped and then archived, ensuring that the latest version is available for future sessions.

#### *Q: How am I be notified about a software update?*

A: We aim to always inform you about new updates and features. Notifications are sent to your registered email address or through online Viz Now LaunchPad announcements, with details that include any new features or improvements you can expect.

#### *Q: Can I choose to delay or opt out of updates?*

A: As part of our commitment to continuous improvement, we encourage users to stay up to date with the latest versions of their apps. If you have concerns or specific needs regarding updates, please reach out to our Support team, and we work with you to find the best solution.

#### *Q: What happens if an update impacts the availability of the service?*

A: While updates are designed to be seamless and minimize disruption, there may be occasions when an update requires temporary downtime or scheduled maintenance. In such cases, we communicate the downtime schedule well in advance, either by mail or online.

This ensures that you are aware of any potential impact on your usage. Our goal is always to minimize any disruptions and provide a smooth transition to the updated version.

**Q: What happens to updates when a deployed product is being used in production?**

A: We understand that when you have a product deployed for production, stability and consistency are paramount. To ensure a seamless experience, we have a specific approach to updates:

1. When you deploy a product for production, the system uses the latest product version available at that time. This ensures that you have access to the most up-to-date features and improvements.
2. Once the production session is completed, it's important to run the Archive procedure to preserve all the session data and settings. This includes capturing media, metadata, and other relevant information for future reference.
3. When you restore a session for subsequent use, the system automatically uses the latest product version available at that time. This ensures that you benefit from any new features, bug fixes, and performance enhancements introduced since the previous session.

**⚠ Note:** During a production session, even if software updates are available, the deployed product continues to use the version initially selected, maintaining consistency and avoiding any unexpected changes.

**Q: What happens to any custom installed software on my machine, when deploying a new workflow?**

A: When deploying a new workflow, whether for the first time or from an existing archive, it's important to note that the provisioned machine will be a new fresh instance with the latest product version. As a result, any custom-installed software and customizations made on the previously provisioned machine are *not* maintained.

**⚠ Note:** We do not encourage the installation of additional software on the provisioned machine beyond what is provided by our platform. Any software installed by the user is done so at their own risk and responsibility. We cannot guarantee the functionality, compatibility, or security of any customer-installed software or customizations.

However, rest assured that the restoration process preserves your session's personalization and media. This means that all your session settings, preferences, and media files associated with the workflow are restored seamlessly onto the new provisioned machine. You can continue your work with the latest product version while retaining your session-specific customizations and content.

**ℹ Info:** When planning your deployments it is important to ensure that you have a record of any custom installed software or customizations, to facilitate their reinstallation or configuration on the new provisioned machine.

If you have any specific requirements or concerns regarding customer-installed software or customizations, please reach out to our Support team. We are here to assist you and provide guidance on how to best manage and accommodate your specific needs.

Please note that we won't be accountable for any issues, conflicts, or problems that may arise from installing additional software on the provisioned machine. We recommend exercising caution and thoroughly evaluating the impact of any software installations, to ensure a smooth and reliable workflow experience.

We strive to offer a streamlined and efficient provisioning workflow, while ensuring the latest product version and session personalization are seamlessly integrated.

Thank you for your understanding and cooperation in making the most of our platform.

Should you have any further questions or inquiries, please feel free to contact our Support team. We are here to help address any concerns you may have.

**Q: How can I provide feedback or suggestions for platform improvements?**

A: In the app Chat you can send us:

- Bug Reports
- Product Feedback
- Feature Feedback.

## 5.1.2 Subscription Details

**Q: How does the subscription work?**

A: Our subscription model offers customers a convenient and flexible way to access our platform and its features. When users subscribe to TriCaster Now, they agree on a purchase order with our partner channel to define their preferred subscription tier and duration.

- **Subscription Tiers:** We understand that every user has unique needs and requirements for their live video production workflows. Therefore, we offer different subscription tiers, each tailored to cater to specific use cases and workloads. Our subscription tiers range from *Basic* to *Professional\** and *Enterprise\**, with each tier offering varying levels of access, features, and resource limits (\* available Q1, 2024).
- **Subscription Length:** Customers can choose the subscription length that best aligns with their production needs. We offer flexible subscription durations, allowing users to select a subscription period between **6 months and 1 year**. This enables users to optimize their usage based on project timelines and budgets.
- **One-Time Payment:** Once customers agree on their subscription tier and duration, the subscription fee is a one-time upfront payment for the chosen period. We do not automatically renew subscriptions, providing users with the freedom to decide whether to continue using our platform after their subscription period ends.
- **Access to Latest Features:** As part of the subscription, users have access to the latest product versions and features that we continually roll out through our 'Continuous Delivery' automation. You can rest assured that you'll always have access to the most recent tools and features to enhance your live video production workflows.

**Q: How do I buy and manage my subscription?**

A: To purchase and manage your TriCaster Now subscription, you can follow these steps:

1. **Contact our Reseller Partner Network:** Reach out to our authorized reseller partners to discuss your specific requirements and choose the subscription tier that best fits your needs. They guide you through the purchase process and provide you with a purchase order.

2. **Agree on Subscription Terms:** Work with our reseller partners to define the subscription length, which can range from 6 months to 1 year, depending on your preferences.
3. **Accessing the Platform:** After your purchase is handled, you receive an email with login credentials and instructions about accessing the TriCaster Now platform in our user-friendly portal.
4. **Managing Your Subscription:** Throughout the subscription period, you can rely on our reseller partners for any subscription-related inquiries, changes, or upgrades. They handle all aspects of your subscription management, ensuring a smooth experience.

#### Q: What different subscription tiers are available?

A: We offer three distinct subscription tiers, each tailored for diverse production requirements and user preferences. While we are excited to share these options with you, we recommend reaching out to our reseller partners to get detailed information about each subscription tier and availability.

From September 7th, 2023 the platform is public and available through an *Early Access* release running to the end of 2023 prior to a full launch early 2024. Our reseller partners have exclusive insights into the specific features and capabilities of each tier for the initial Early Access release.

Our reseller partners are experienced professionals who understand the TriCaster Now ecosystem inside out. They guide you through the subscription selection process, ensuring you have the best mode to achieve your production goals with ease and confidence. With their expertise, you can make an informed decision about the subscription tier that perfectly aligns with your unique needs and production demands.

#### Q: Can I upgrade or downgrade my subscription?

A: Upon ordering the subscription, customers pay for the entire duration upfront. We understand that your needs may evolve over time, and we want to ensure you have the flexibility to adjust your subscription accordingly.

Upgrading your subscription to access additional features and capabilities is a straightforward process. However, it's important to note that downgrading your subscription is currently *not supported*.

Once you have selected a subscription tier and its duration, you have the freedom to enhance your subscription to a higher tier at any time. Whether you require more advanced video inputs and outputs, increased storage, or additional/elevated support, our reseller partners are ready to assist you with a seamless upgrade process.

While we currently do not support downgrading, we believe that our diverse range of subscription tiers offers you the optimal solution to cater to your specific live video production requirements. Our reseller partners are equipped to guide you in choosing the subscription that best aligns with your needs.

#### Q: How can I manage my billing and payment information?

A: Managing your billing and payment information is simple and convenient through our dedicated reseller partner channel. Our reseller partners play a central role in providing you with excellent support throughout your subscription journey, including handling all aspects of billing and payment.

Once you have selected your preferred subscription tier and duration, our reseller partners assist you in setting up your billing information. You can rely on them to keep your payment details up-to-date and manage any changes you may need to make during your subscription period.

### 5.1.3 Credit Economics

*Q: What are credits and how do they work?*

A: Our credit-based pricing model allows customers to pay based on their actual usage of the platform. This includes factors such as the number of hours the session is active for online production and the amount of data transferred out of the cloud.

Credits serve as a flexible currency that can be used to access various features and services within the platform. Customers can purchase credits based on their anticipated usage and select the appropriate credit pack that aligns with their needs. The pricing of credit packs is determined by the value they represent and the incremental discounts available for larger credit purchases.

As customers use the platform, credits are deducted from their accounts based on the specific usage metrics associated with their activities. This ensures that customers only pay for the resources and services they consume, allowing for cost optimization and scalability.

It's important to keep track of your credit usage and monitor your account balance to ensure a smooth and uninterrupted experience. Our platform provides the remaining credit balance to help you track your credit consumption and make informed decisions about your usage.

*Q: How are credits included in the monthly subscription and packs spent?*

A: When it comes to credit usage within the context of a monthly subscription and credit packs, our system follows a First-In, First-Out (FIFO) policy. This means that credits are consumed in the order they were acquired, with priority given to those that are closest to expiration.

Let's break down how this works:

1. **Monthly Subscription:** When you have an active monthly subscription, credits from your subscription package are utilized first. These credits are allocated to your account at the beginning of each billing cycle and are intended to cover a certain amount of usage for that period. As you utilize the platform and its features, credits from your subscription package are deducted based on the specific usage metrics associated with your activities.
2. **Credit Packs:** If your monthly subscription credits are fully utilized or if you require additional credits beyond the subscription package, you can purchase credit packs separately. Credit packs provide you with a specific number of credits that can be used to access the platform's features and services. As you engage with the platform, credits from your credit packs are consumed based on the usage metrics associated with your activities.

In both cases, credits are consumed based on the FIFO principle. This ensures that credits with the earliest expiration dates are used first, allowing you to optimize your credit utilization and prevent credits from expiring unused. By adopting this approach, we aim to provide a fair and efficient credit consumption process.

*Q: How are credits calculated and used within the platform?*

A: Credits within our platform are calculated and utilized based on a defined credit value per consumption unit for various infrastructure components. This ensures a transparent and accurate credit usage tracking system.

Let's delve into the details of how credits are calculated and used for different infrastructure components:

1. **Virtual Machine Instances:** When you utilize virtual machine instances within the platform, credits are deducted based on the specific resource allocation and usage duration. The credit value per unit of machine instance usage is determined based on the underlying infrastructure costs and operational considerations.
2. **Online Storage:** Credits are also consumed based on the utilization of online storage, which provides persistent block-level storage for your instances. The credit deduction is proportional to the amount of storage used and the duration of usage.
3. **Egress Traffic:** Any data transfer out of the cloud, such as delivering live streams or accessing media files, incurs egress traffic. Credits are deducted based on the volume of data transferred out of the platform, considering factors like bandwidth usage and data transfer rates.

The credit value per consumption unit for each infrastructure component is established to align with the associated costs and ensure a fair and predictable credit consumption experience.

*Q: What are some good habits to optimize costs within the platform?*

A: To optimize costs and make the most of your usage within the platform, we recommend adopting the following good habits:

1. **Archiving Workloads:** When your live production session is not in use, it is advisable to archive it. Archiving ensures that you do not incur unnecessary storage costs while the virtual machine is offline. By archiving, you can free up resources and only activate the workload when needed, maximizing cost efficiency.
2. **Right-Sizing Workloads:** When planning your live production, consider selecting the appropriate product size based on your specific requirements. This includes taking into account the maximum number of inputs and outputs required for your production. By right-sizing your workloads, you can avoid over-provisioning and optimize costs by utilizing resources effectively.
3. **Selective Screen Usage:** Be mindful of the number of screens you use for operation and monitoring within the platform. Each screen adds to the data transferred out of the cloud, which can impact costs. Use only the necessary screens for your workflow, to minimize data transfer and optimize expenses.
4. **Efficient File Management:** Avoid unnecessary data transfer by optimizing your file management practices. Instead of copying large-sized files from the cloud repeatedly, consider utilizing lower quality. Minimize data transfer between the cloud and your local environment to save costs and improve efficiency.

*Q: What happens when I run out of credits during a live production?*

A: We understand that managing credits during live production is crucial for uninterrupted operations. If you happen to run out of credits during a live production, our system is designed to handle this situation smoothly:

1. **Notification:** As soon as your credits reach a low balance, our system automatically sends an email to the main contact person associated with your account. This email serves as a notification that your credits are running low and action is required.
2. **Grace Period:** Upon receiving the email notification, you have a grace period of one hour. This allows you time to close your applications and gracefully conclude your live production.
3. **Machine Shutdown:** After the grace period expires, if no action is taken to replenish the credits, our system initiates the Archive process for the deployed machines associated with your production. This ensures that your resources are efficiently managed and prevents any additional usage without sufficient credits.

 **Note:** It's important to closely monitor your credit balance during live productions to avoid interruptions. We recommend regularly checking your credit balance and adding additional credits as needed to ensure a seamless experience.

*Q: Can I purchase additional credits if I run out?*

A: Absolutely! If you run out of credits during your subscription period or credit pack usage, you can easily purchase additional credits through your designated account representative in our partner channel. Simply reach out to your account representative and they will assist you with the credit purchase process.

Our partner channel ensures a seamless and personalized experience for our customers, allowing them to connect directly with their trusted account representative for all their needs, including purchasing additional credits. Your account representative guides you through the available credit packages and pricing options, helping you choose the best fit for your usage requirements.

*Q: How long will it take to process an order for new credits before I can use them?*

Planning of the session and preparation that sufficient credits are available in a timely manner is important here. Partners should process orders as quickly as possible to get them to Vizrt. From there, the TriCaster Now operations team only requires a few hours to add the credits to the user's account.

*Q: Are there any discounts or incentives for bulk credit purchases?*

A: We value our customers' commitment and offer attractive discounts and incentives for bulk credit purchases. When you purchase credits in larger quantities, you can take advantage of cost savings and additional benefits.

Our bulk credit purchase program is designed to provide flexibility and cost-effectiveness for customers with higher usage demands. The specific discounts and incentives available depend on the volume of credits you wish to purchase.

To explore the available discounts and incentives for bulk credit purchases, we recommend reaching out to your dedicated account representative in our partner channel. They provide you with detailed information on the pricing structure, discounts, and any special offers that may be applicable to your specific requirements.

*Q: What happens to unused credits?*

A: The handling of unused credits depends on the type of credits you have:

1. **Monthly Credits:** These are allocated as part of your subscription plan and intended to be used within the corresponding month. *If you do not use these credits during the month, they expire at the end of that month. Please note that unused monthly credits do not roll over to the following month.*
2. **Credits Pack:** A pre-purchased bundle of credits that provides flexibility and convenience. These credits are valid for use anytime within the current subscription term, typically 12 months. However, it's important to note that *credits from the pack do not roll over to the next subscription term if unused. Once the subscription term expires, any remaining credits in the pack also expire.*

To optimize your credit usage and ensure you make the most of your subscription, we recommend planning your credit consumption based on your anticipated usage patterns. By monitoring your credit balance and usage, you can effectively utilize the available credits and avoid any unnecessary expiration.

#### 5.1.4 Bandwidth Requirements for Live Video Production

**Q:** *What is the bandwidth requirement for live video production?*

**A:** The bandwidth requirement for live video production can vary depending on several factors, including the resolution and quality of the video, the number of video sources, and the desired output format. To ensure a smooth and optimal live production experience, we have provided detailed information on how to calculate the bandwidth requirements in our user documentation.

You can find comprehensive guidelines and recommendations on bandwidth requirements in the section [Estimating Bandwidth Requirements](#).

**Q:** How does the solution handle different bandwidth limitations?

**A:** Our solution is designed to handle various bandwidth limitations and provide a seamless live video production experience, even in challenging network conditions. The video transport protocol used in our platform incorporates advanced buffering and error correction techniques to mitigate the effects of limited bandwidth.

The video transport protocol optimizes the transmission of video and audio data over the public internet, adapting to network conditions to ensure smooth playback and minimal disruptions. By employing buffering and error correction mechanisms, our solution helps maintain video quality and minimize the impact of network congestion or fluctuations in available bandwidth.

In addition, we provide a dedicated section, in the section [Estimating Bandwidth Requirements](#), in our user documentation explaining how to adjust the video and audio buffering settings to further optimize performance based on specific bandwidth limitations. This section also provides step-by-step instructions on modifying buffering settings and offers recommendations for different scenarios.

**Q:** Are there any specific recommendations for optimizing bandwidth usage?

**A:** For optimizing bandwidth usage to ensure an efficient and reliable live video production experience. Here are some key practices to consider:

1. **Optimal Resolution and Bitrate:** Select the appropriate resolution and bitrate settings for your live video production based on the available bandwidth and desired video quality.

Higher resolutions and bitrates require more bandwidth, so it's essential to find the right balance that meets your requirements without exceeding the available capacity.

2. **Selective Screen Usage:** When operating and monitoring your live production, only utilize the necessary screens to reduce the amount of data transferred over the network. This helps minimize bandwidth usage and ensures efficient utilization of resources.
3. **Close Unnecessary Applications:** To further optimize your bandwidth usage, it is recommended to close any other applications or processes running on your device that may consume bandwidth. By reducing background network activity, you can allocate more bandwidth to your live video production, enhancing its performance and stability.

### Q: What happens if my internet connection is unstable during a live production?

A: We understand that internet connections can sometimes be unreliable, and we have built-in mechanisms to handle such situations and ensure the best possible outcome for your live production.

Here's what happens if your internet connection becomes unstable:

1. **Buffering and Error Correction:** Our NDI® video transport protocol incorporates buffering and error correction techniques to mitigate the impact of an unstable internet connection. The system buffers incoming video data to compensate for temporary network disruptions, ensuring a smooth and uninterrupted playback experience for viewers.
2. **Network Recovery:** If the internet connection stabilizes after a period of instability, our platform automatically adjusts and recovers to the optimal streaming quality. The system monitors the network conditions and adapts the video bitrate accordingly, providing the best viewing experience possible.
3. **Remote Monitoring Software (NICE DCV):** This can be offset with a variety of display monitoring parameters that adaptively balance screen quality with UI responsiveness. In all cases you'll still have a great operational experience and connection to the TriCaster production UI.

While we strive to ensure a seamless live production experience, it's important to note that the stability of your internet connection is a *critical* factor in achieving optimal results. We recommend following best practices for internet connectivity, such as utilizing a reliable and high-speed internet connection, minimizing network congestion, and avoiding simultaneous heavy data transfers on the same network.